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THE EFFECT OF CREATIVE DANCE EXPERIENCES ON SELECTED ASPECTS OF CREATIVE WRITING IN GRADE FOUR CHILDREN

by

LYNN MARGARET MACPHERSON

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled THE EFFECT OF CREATIVE DANCE EXPERIENCES ON SELECTED ASPECTS OF CREATIVE WRITING IN GRADE FOUR CHILDREN submitted by LYNN MARGARET MACPHERSON in partial fulfilment of the requirements for the degree of Master of Education.

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Date November 5, 1975

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ABSTRACT

The purpose of this study was to discover what effects, if any, creative dance experiences may have upon the creative writing of grade four children.

A grade four class of sixteen boys and twelve girls participated in a five week treatment program of creative dance. Half of the dance lessons were followed by a creative writing assignment. These were known as the treatment test writings. In addition, samples of creative writing were collected from the children before the treatment program began (pretest) and two days (post-test) and twenty-five days (retention test) following the treatment program.

It was hypothesized that the similarities between creative dance and creative writing with regard to the phases in the creative process and the divergent thinking skills involved, may result in a transfer of learning from creative dance to creative writing. To measure such transfer, the writing produced during this study was analyzed for certain variables. Pretest and post-test writing was analyzed according to the following four quantitative variables of written language: i) modification of nouns, ii) modification of verbs, iii) variety of words used, iv) amount of information included. All writing was analyzed according to the following ten qualitative variables of written language: i) nouns, ii) verbs, iii) adjectives, iv) adverbs, v) sensory details, vi) novelty,

vii) figurative language, viii) punctuation-graphic, ix) aural effects, x) direct writer involvement.

The quantitative variables of modification of nouns and amount of information included, rose significantly from pretest to post-test writing. The qualitative variables of nouns, novelty, figurative language, punctuation-graphic, and aural effects showed a statistically significant rise from pretest to treatment test writing. A measure of the overall rise of qualitative variable scores showed a statistically significant rise from pretest to treatment test writing and from pretest to post-test writing.

The writing which was preceeded by creative dance included more of the qualitative variables of written language than the writing which was not preceeded by the dance experience.

Results of this study indicate that creative dance experiences may aid in stimulating creative writing activity and in developing certain aspects of written language.

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CHAPTER ONE

THE PROBLEM

I. INTRODUCTION

Recent elementary school curricula, including the Alberta curriculum, have been enlarged with the aim of developing the creative and expressive abilities of the individual student. The inclusion of creative writing, dance, drama and art are examples of this trend.

Many claims have been made that learning in dance and in language can be inter-related and concurrent. Joyce Boorman (1973) has expressed this relationship, as follows:

> . . . that words and language belong to dance, that dance belongs to words and language, that both belong to the child, and that it is our responsibility. . . (as teachers). . to attend to both creative dance and to language.
>
> (xiv)

If learning in one area contributes to development in the other, then activities could be designed based upon the inseparable nature of movement and language. For example, as the child explores the word "drifting", in a dance class, he moves slowly, gently, in a free and open space. When he turns to "slashing", he is sudden, strong and direct. The language helps to focus the dance action and the dance involves the child in translating language into movement.

Creative dance seeks to develop, among other aspects, the child's awareness of what his body can do in relation to time and

energy; space and relationships. Creative writing seeks to develop, among other aspects, the child's awareness of what his language can do in relation to vocabulary, form, content and style.

The importance of language learning in the school curriculum has been securely established. However, the role of dance in education is much less clearly defined. Certainly, dance as an expressive art form must be enjoyed for its own sake, but the minor role of dance in education, today, suggests that there is much to be gained by demonstrating the effect of dance on learning in other areas, such as the language arts.

Indications are that the dance experience may directly contribute to development in written language. Every elementary teacher surveyed in Clegg's study (1964) of the attitudes of successful teachers towards the teaching of writing skills, cited the creative dance experience as a major factor in written language development. Joan Russell (1958) has noted the same attitude among teachers.

> It is felt by those teaching in schools where dance is taken throughout, that it has an influence upon the creative work in English and the other arts.
>
> (84)

II. PURPOSE OF THE STUDY

The attention of this study was focussed upon two kinds of claims in the literature on children's creative dance. The first concerned the nature of the changes in language, caused by the dance experience, and the second concerned the range of this change in language.

Violet Bruce suggested that,

> Coming to terms with words and ideas through dance and dance drama can without doubt help the child or student to express more clearly and vividly in writing.
>
> (1965, 41)

Which aspects of the language achieve this clarity and vividness were not specified.

In a study conducted in 1972, Joyce Boorman concluded that the creative dance experience may lead to an increase in the written vocabulary, which may in turn, lead to an increase in the clarity and vividness of written expression. She also suggested that the writing of children who participated in a creative dance program was "more qualitative" (58) than the writing of children who did not dance. She did not elaborate on which specific aspects of the language contributed to a more qualitative product.

Claims regarding the value of creative dance in developing language skills have been based largely on personal experience and observations. In an attempt to verify these claims, this study aimed to determine which aspects of written language development are influenced by the dance experience.

Russell's earlier quotation specified that a relationship between dance and language existed only in schools with a continuous, ongoing dance program. This study attempted to determine the range of the influence of dance on written language. It may be that changes in language occur when dance immediately preceeds the writing, or they may occur even when the two activities are experienced many days apart.

III. RESEARCH QUESTIONS

This study attempted to answer the following questions:

1. What are the qualitative aspects of language which characterize the writing of children who participate in creative dance activities?
2. What are the quantitative aspects of language which characterize the writing of children who participate in creative dance activities?
3. What is the effect on creative writing when:
   - i. it is immediately preceeded by creative dance?
   - ii. it follows a creative dance program by two days?
   - iii. it follows a creative dance program by twenty-five days?

IV. DEFINITION OF TERMS

For the purposes of this study, the following definitions will be used.

Creative Dance - Dance activity in which the child determines the image and form of his dance, is creative in nature.

Creative Writing - Composition in which the child is free to select his subject matter and to determine the length and form in which his writing will appear. (Witty, in Burrows, et al, 1952).

V. HYPOTHESES

The following null hypotheses are considered:

1. There will be no significant differences between grade four children's performance on a pretest of creative writing and their performance on a post-test of creative writing, in terms of the following variables:
    i. modification of nouns
    ii. modification of verbs
    iii. variety of words used
    iv. amount of information included

2. There will be no significant differences between grade four children's performance on a pretest of creative writing and their performance on treatment tests of creative writing, in terms of the following variables:

i. specificity of nouns

ii. specificity of verbs

iii. specificity of adjectives

iv. specificity of adverbs

v. sensory details

vi. novelty

vii. figurative language

viii. punctuation-graphic

ix. aural effects

x. direct writer involvement

xi. a composite score of the above variables

3. There will be no significant differences between grade four children's performance on a pretest of creative writing and their performance on a post-test of creative writing, in terms of the eleven variables listed above. (2. i - xi).

4. There will be no significant differences between grade four children's performance on a pretest of creative writing and their performance on a retention test of creative writing, in terms of the eleven variables listed above. (2. i - xi).

VI. DESIGN OF THE STUDY

A grade four class of twenty-eight children participated in a five week treatment program of creative dance. Half of the dance lessons were followed by a creative writing assignment. Samples of writing were collected from the children before, two days

following and twenty-five days following the treatment program. All writing produced during the study was analyzed according to fourteen selected variables of written language development. Results of the analysis were examined statistically.

VII. LIMITATIONS OF THE STUDY

The study is limited in the following ways:

1. The language variables measured may not be the significant aspects of written language which are most affected by the dance experience.
2. No attempt has been made to measure changes in oral language.
3. A five-week treatment program may not be long enough to substantially effect a change in written language.
4. The outside effects of time, of the school and home environments and other variables which may effect language learning, cannot be excluded from this study.
5. The results of this study can be generalized only to similar populations.

VIII. SIGNIFICANCE OF THE STUDY

It is hoped that the results of this study will indicate the effects a program of creative dance may have on the written language of grade four children. Should it be demonstrated that

there may be a positive and significant link between dance and language, the place of dance in the elementary school curriculum may be more firmly established and the creative writing program may be expanded to include creative dance as an additional stimulus for writing.

IX. PLAN OF THE RESEARCH

In Chapter I, the problem was identified and the study outlined. A review of the theories of creativity and the application of theory to writing and dance programs are outlined in Chapter II. In addition, the results of previous research studies related to the problem are presented. Chapter III describes the sample, the instrument for analyzing the written language, the experimental procedure and the statistical procedures involved. The results of the statistical analysis of the data and their interpretation are presented in Chapter IV. Chapter V contains the conclusions based on the findings and the implications for further research.

CHAPTER TWO

REVIEW OF THE LITERATURE

This chapter first examines the contemporary theories of creativity and how the theory is applied to writing and dance activity in the elementary schools. It concludes with a brief description of the theory of transfer of learning, of the interrelatedness of the arts and of several studies which measured the transfer of learning from one mode of expression to another.

1. CREATIVE THEORY

Creativity is a term that tends to be overused and loosely applied in the modern educational context. Those concerned will often agree that a major aim of the school is to foster student creativity. However, when the question arises, "What is creativity?", there may be as many definitions as respondents. If a definition cannot be agreed upon, how do educators accomplish the task of developing student creativity? To understand this concept fully, this section examines the different aspects of creativity -- the creative person, product, process, and the classroom conditions required for developing creative potential.

The Creative Person.

Many of the historical misconceptions associated with the creative phenomenon persist today. Creativity was regarded as the special realm of the abnormal, eccentric or genious. Certainly,

some were madmen, like Van Gogh, or drug addicts, like E. A. Poe, or alcoholics, like Dylan Thomas. The overwhelming majority of creativity products - the masterpieces in music and art and the scientific discoveries - came from men. Therefore, women were considered creative inepts.

Recent research findings have rejected this erroneous, if somewhat romantic, view of the creative individual. Creativity is considered an ability possessed, to a greater or lesser degree, by all people of normal intelligence, rather than an attribute which is either present or absent. (Osborn, 1953, 14). Neither is creativity necessarily liked with the highly intelligent. No positive correlation has been established between intelligence and creativity. (Parnes, 1962, 349, 363. Mooney, 1967, 307). Women have been proven as creative as men, since both sexes scored equally well on creativity tests. (Osborn, 1953, 18). Cultural attitudes may have been the source of some confusion in the past. Results from two separate studies have indicated that the creative person is distinguished, in one study, by qualities of maleness, "aggressiveness, daring and independence" (Groch, 1969, 28) and in another study by qualities of femaleness, "openess to own feelings, sensitive intellect and understanding self-awareness." (Kagan, 1967, 29). The qualities assigned to maleness and femaleness are supposedly indicative of the American cultural attitude.

As indicated by the Groch and Kagan reports, research findings do not agree on the personality characteristics of highly creative people. Certain studies contend that they are uncomprising, impulsive, non-conforming and individualistic. (Parnes, 1962, 345. Gruber, 1964, 134). They withdraw from group situations and are considered silly and undesirable by teachers and peers. Other research claims that creative people are not inclined toward such behaviour (Anderson, 1959, 152. Kagan, 1967, 27) and one comprehensive study of outstanding creative scientists showed that they shared no other common trait than the ability to work hard. (Roe, in Groch, 1969, App.). Several prominent researchers cite "courage" as the basic characteristic of creative people; courage to believe in themselves and to see their visions through to the end, regardless of outside pressures or skepticism. (Anderson, 1959, 53. Kagan, 1967, 27).

The conclusion to be drawn from these conflicting findings, is that it is difficult to describe a creative person in terms of personality characteristics.

The Creative Process.

If creativity cannot be described in terms of personality characteristics, is there another facet which may yield a set of criteria for describing creativity?

Guilford was one of the first researchers to describe creativity as a thinking process. Rather than focus upon the characteristic personality traits of creative people, he observed

what appeared to be their characteristic thinking processes. (in Parnes, 1962, 156-58). Guilford, Torrance (in Sweeney, 1970, 125) and others have suggested that certain phases exist in the creative thinking process. For purposes of this study, the five major phases in the creative process may be identified, as follows:

1. Awareness - A specific experience may arouse the curiosity or the conscious awareness of a problem, a question or a challenge.
2. Incubation - Information is gathered. Ideas are played with and guesses or possible solutions are generated.
3. Preliminary Product - A theory or product is presented.
4. Formulation - This product is tested and accepted following revisions, or is rejected. If rejected, a return is made to the Incubation stage.
5. Communication - The result or product is shared with an appropriate audience.

In addition, Guilford identified what appeared to be the characteristic thinking skills of creative people. Among these were the fluency, or quantity, of thought, the flexibility of thought, which is the ability to adopt varying viewpoints, the originality of thought, which is uncommoness or unusualness of response, and elaboration, which is the ability to expand an idea with detail. (in Parnes, 1962, 156-58). Several psychologists,

notably Torrance, then devised tests to measure the degree to which these abilities were present. (See Chart I)

From these developments, a new logic arose, based on the premise that all people possess creative potential to a greater or lesser degree. If creative people think in particular ways, then teaching other people to think in these ways, may result in their becoming more creative. The next step was to prepare teacher and student materials to develop these creative thinking skills and to devise learning experiences to parallel the phases of the creative process. Torrance was one of the early leaders in applying creative process theory to the classroom situation.

An understanding of the creative process may be a useful educational tool. If creativity is characterized by certain thinking processes, then evidence of these processes operating in creating products, may supply a set of criteria for evaluating these products.

The Creative Product.

If it is accepted that creativity may not be identified in terms of personality characteristics, may to a certain extent be measured in terms of the creative processes involved, may it also be measured in terms of the product or ideas produced? If so, how does one recognize a "creative" product? What are the criteria for evaluation?

CHART I

EXAMPLES OF DIVERGENT THINKING FROM TORRANCE'S TESTS OF CREATIVE THINKING

Test Item: Just suppose that clouds had strings attached to them which hang down to earth. What would happen?

Thinking Skill	Definition	Possible Responses
Fluency	The ability to produce a large number of ideas.	All of the responses listed below.
Flexibility	The ability to produce a variety of ideas, to shift from one approach to another, or to use a variety of strategies.	- People would hang packages from them. - They would block driver's views on highways. - Rain would trickle down the strings.
Originality	The ability to produce ideas that are away from the obvious, commonplace, banal or established.	- Could catch airplanes by climbing strings. - Buy clouds like balloons. - Would have a downstairs and upstairs city or world.
Elaboration	The ability to develop, embellish, carry out, or otherwise elaborate ideas.	- People would cut them off, and make a tunnel for cars to go through. - The string would break and people would fall.

An examination of the definitions of creative product, in Parnes, (1962, 241) reveals four major criteria, and to a certain degree the criteria used in evaluation reflects the type of product involved. Novelty and originality are common criteria for evaluation in the arts, while usefulness and value to society are criteria reflecting the demands of the sciences.

Novelty, as described in Parnes, refers to something that has never been created before. In practise, it would be almost impossible to verify that something had never been created before. Originality refers to "uncommon, remote or clever" products. Since it is difficult to verify these qualities, Guildford suggests (in Parnes, 1962, 241) that they be regarded on a continuum. A social and cultural judgment is implicit in determining whether a product is useful and valuable to society. There must be a need which the product meets.

Even more controversial than determining the criteria for evaluating a creative product, is determining the locus of evaluation. Rogers insists that,

> . . . the most fundamental condition of creativity is that the source or locus of evaluative judgment is internal.
>
> (in Anderson, 1959, 76)

One must decide if the product satisfies personal criteria before considering the evaluation of others. Mead feels that a creative act has occurred when a person creates something which is new for him. (in Anderson, 1959, 223). In this case, evaluation would

also be internal, as only the individual knows what is new for him. Novelty and originality criteria are suited to internal evaluation, while an external group often measures the usefulness of a product, or its value to society.

Taylor (in Smith, 1959, 55-60) suggests that creative products can be considered on several psychological levels. The basic level, "expressive creativity", is not suited to any kind of evaluation, but is a form of creative activity which exists solely for the enjoyment and pleasure of the creator.

The teacher may very well not know when a student product is creative. If it seems unusual, that a lot of effort has gone into it, or that the student has been emotionally involved with it, then it often receives the creative stamp of approval. The teacher may evaluate student performance in terms of improvement in the mastery of the medium, be it language, paint, movement or music. Evidence of creative thinking, such as the fluency, flexibility, originality and elaboration of ideas, may be considered as a partial set of criteria for evaluation.

Necessary Factors for Developing Creativity in the Classroom.

The numerous books, kits, and texts on the market today, attest to the optimism that creativity can be developed in the schools. However, these materials can be misused by poor or unprepared teachers, as Whittemore suggests, (in Summerfield, 1968, 46) with very uncreative results. In order to develop creative

thinking and process skills, certain learning conditions and skills are recognized as essential for developing creative potential.

The Creative Environment.

The teacher is certainly the most important factor in the child's creative development within the school. Torrance recognized this and set up a detailed guideline for teachers entitled, "Creative Thinking Through School Experiences". (in Parnes, 1962, 31-47). One of his guidelines characterizes a creative classroom as having,

> . . . an atmosphere of released control, permissiveness, a sense of security, an absence of fear, flexible ways of working together.
>
> (in Parnes, 1962, 37)

Sensory Training.

A wide range of sensory experiences may lead towards a discovery of obscure or hidden qualities. Violet Bruce (1965, 29) credits an "awakening of the senses... a heightening of hearing, touch, bodily sensations and sight" as an important part of an aesthetic education. Her implication is that sensory awareness is crucial for producing original ideas in dance, drama and the arts.

Stimuli must be provided in various sensory modes. As Torrance concludes, (1965)

> . . . it is quite clear that some individuals respond more creatively to things that they hear, while others achieve greater heights when responding to visual stimuli.

It would follow that certain people may respond best to stimuli in the other sensory areas.

Similarly, to quote Torrance again, (1965) opportunities for expression must be provided in many of the communication modes, to meet all needs.

> Some individuals are free, spontaneous and bold in their thinking when permitted to transmit their ideas in nonverbal form, but are paralyzed and impoverished if they have to express their ideas in words.

Formulation of Ideas.

Although the creative process is characterized by both divergent and convergent thinking, the divergent process is required to produce great quantity and quality of ideas.

Torrance, (in Parnes, 1962, 35) encourages teachers to let the child manipulate objects and ideas. His research indicates a relationship between the degree of manipulation and the quantity and quality of inventive responses.

Rogers attaches great importance to

> . . . the ability to play spontaneously with ideas, colors, shapes, relationships - to juggle elements into impossible juxtapositions. . . to express the ridiculous . . . to translate from one form to another.
>
> (in Anderson, 1959, 76)

This ability characterizes fluency, flexibility, originality and elaboration in thought. Out of several hundred possible ideas one or two may lead to a creative act. This free play of ideas expands one's awareness of the possibilities.

The Creative Encounter.

As Brown describes it, the encounter ". . . implies a genuine creative meeting of one person with some other person or substance of the universe." (1973, 2). He further specifies that the person must be open to his experience and become totally involved in it. It is this intensity of the encounter that distinguishes it as creative.

The child can be provided with the time and atmosphere condusive to concentration. The child must be open to his experience and become totally involved in it. A creative environment may provide the stimulus and the sensory awareness to reveal the uniqueness of the stimulus. A free play of ideas may expand the possibilities of interpretation. It is the intensity of the encounter that may lead to a creative act.

Summary

During the past thirty years, creativity has come to be regarded as an ability possessed by all people. The creative process is characterized by five major phases, and by many abilities, such as divergent thinking, which includes fluency, flexibility, originality and elaboration of thought. Evaluation of creative products is difficult, and may be best left to the creator. Evidence of the creative process in a product, may be one suitable set of criteria for evaluating or describing creativity. Assuming that creativity can be developed in the

schools, several classroom conditions which are necessary for creative development to occur, must be considered.

II. CREATIVE WRITING

The forementioned principles of creativity, relating to the person, product, process and the necessary classroom conditions, have a direct relationship to the creative writing program of the elementary school.

The Creative Person.

Research into the relationship of creative writing with sex and intelligence, has been conducted to parallel the studies described in Parnes (1962) and Osborn (1953) earlier in this chapter. The research studies of McKie (1963) and Peel (1968) indicated that creative writing success was within the reach of all children, regardless of sex or intelligence, although there may be a wide range of ability just as there is in any learning area. McKie's study reported that girls experienced greater success in creative writing in grades four and five. By grade six, the differences were insignificant. Peel's study reported a relationship between intelligence and ability in creative writing among grade six students when given fifteen minutes for writing. However, when the amount of time was doubled and tripled, there was no significant difference in writing performance related to intelligence. No other personality factors have been identified which may affect the creative writing performance.

The Creative Process.

Language Arts educators confirm the importance of the teacher's role in providing the situation, opportunities and skills necessary for developing creativity in written language. Armstrong (mimeo.) developed the following plan for structuring learning experiences in creative writing. This plan parallels the phases of the creative process.

Creative Process	Creative Writing
1. Awareness	1. Intake of Experience (active) Any real and specific experience provides a focus.
2. Incubation	2. Discussion (oral) Emphasizing the complete range of acceptance of the unique and unusual.
3. Preliminary Product	3. Expression (written) The freedom in structure and style matches the purpose of the writing.
4. Formulation	4. Evaluation - Self evaluation is guided by a flexible criteria modified by the child's needs and purposes.
5. (Communication)	5. (The writing is shared.)

The creative writing experience begins with the child becoming actively involved with some kind of idea. This stimulus for thinking and writing may be an actual physical experience, such as creative dance,

or may be a question or problem which arouses the curiosity. In Chart I, the stimulus for the thinking and writing was the imaginative question, "Just suppose that clouds had strings attached to them which hang down to earth. What would happen?" This question focussed the writer's attention on a very specific idea.

The second phase in creative writing, allows the child to manipulate ideas orally. Through discussion the child has the opportunity to hear and to speak what may be greatly varying interpretations or responses.

If the second phase is successful in assisting the child to generate and choose suitable ideas, then the resulting oral language may prepare the child for the third phase. Here, ideas are translated into the written language and the literary form which can express them.

The suitability of the written language and the form chosen, in phase three, is evaluated in the fourth phase. This evaluation may be done by the teacher, the class, or the writer. Ideally, the evaluation is concerned with the writer's particular capacity for written expression.

Although Armstrong does not include the fifth phase in his model, there is likely to be some kind of communication or sharing of the writing. This may take the form of posting the writing or of reading it aloud, for all to enjoy, or it may be that the children trade writing with others of their choice. There may be instances when the writing is produced for private reasons and is not shared.

Through these phases, the child may have the opportunity to develop the divergent thinking skills of fluency, flexibility, originality and elaboration. Fluency of thought may surface in a variety

of vocabulary and ideas. Flexibility of thought may create unpredictable plots and characters. Originality of thought may result in an invention of words or literary techniques to express unusual ideas. Elaboration of thought may produce modification and expansion of ideas through descriptive details.

The Creative Product

It is difficult to evaluate a piece of creative writing and this task may be best left to the writer, although the teacher has a major role to play. The following description of the teacher's role in evaluating creative writing, is based on the suggestions of Lloyd Brown. (1973, 15, 16) According to Brown, the purpose of evaluation is to develop the process of creative writing. All evaluative comments must contribute to furthering the writer's creative growth. The teacher must be aware of the child's interests, needs and stage of development in order to detect potential. By question and comment, she can direct attention to this potential. The teacher is specific by building on what is good, but is indirect by not stating what "should be".

The teacher who establishes a warm, accepting atmosphere for creative writing, and a positive approach to evaluating the writing, can safely allow the children to participate in evaluation. However, the privacy of the child should be respected and no story or poem shared unless the author volunteers it. The teacher can direct attention to noteworthy aspects of content and craft which

the group does not identify. Pointing out literary devices such as figurative language and vivid vocabulary, when it occurs in pupil writing, allowing the class to determine and appreciate what effect these devices have on the writing, is certainly an effective way to teach control of language. Examples drawn from pupil writing will always have more meaning than adult-composed examples of the same concept or technqiue.

The child must learn to evaluate his own work in order to establish his independence. This should be the final stage and the ultimate goal of the evaluative process. It is important that this is the final stage, preceeded by teacher and group evaluation. Children cannot be expected to evaluate writing until they have discovered what to value. Some children tend to be over-critical of their work and need the preliminary reassurance that they can succeed.

External evaluation of writing is inappropriate if the writing is produced at the "expressive creativity" level, or not created for an audience but for the writer's own pleasure.

Necessary Factors for Developing Creative Writing

The four conditions and opportunities necessary for developing creative potential, as described in the previous section, have specific implications for teaching creative writing.

The Creative Environment.

Burrows, Ferebee, Jackson and Saunders (1952) suggested that a warm, accepting atmosphere was necessary for creative writing, a decade before Torrance set down his guidelines. They stressed that the teacher point out in the beginning that negative criticism was not permitted.

Brown agrees, (1973, 3) that the teacher plays a major role in providing a climate condusive to creative activity, but insists that pupil materials and texts share some of the responsibility. His point is that an authoritarian correct-answer type of text would undermine the progressive work of the creative teacher. Holbrook agrees (in Summerfield, 1968, 1) that the creative approach must be consistent throughout all aspects of the language arts program.

> Creativity cannot be satisfactorily introduced into an English program unless creativity is accepted as a basis of our approach to English teaching as an art.

Sensory Training.

Several authors (Hennings and Grant, 1973, Carlson, 1973, and Petty, 1967) suggest that active involvement in an experience may be stimulated through the senses. Hennings and Grant (1973,35) state, "The person who can get the most from an experience is the person who is primed to receive impressions through all his senses." If Torrance (1965) is correct in his assumption that individual preferences for sensory stimuli and expression are strongly defined,

then the teacher must attempt to provide the full range of sensory opportunities, in order to reach all of the children, some of the time.

Teacher directed experiences may be necessary to overcome a child's tendency to respond with cliched or uninspired ideas.

> The teacher's job is getting children to react with all their senses - sound, sight, taste, smell and touch. She must help children see and feel the concrete; she must help them become more keenly aware of odors; she must help them listen for unusual sounds.
>
> (Hennings and Grant, 1973, 35)

A great deal of teacher time will be spent in motivating children to write when the stimulus is not of a personal, immediate nature. As Petty points out,

> The most time worn and often the most unsuccessful method for getting children to write is the assignment of a topic.
>
> (1967, 18)

This approach requires the child to draw upon his imaginative storehouse. If the idea does not particularly appeal to him, the result may be a trite, or empty product. This question of motivation for writing is crucial. As Petty continues,

> Students must write because they want to - either for the joy of it or because it is necessary to their lives. They will not write unless there is something to write about.
>
> (1967, 6)

The ideal stimulus would appear to be one which is specific enough to motivate the most hesitant writer and general enough to allow for many individual responses.

Formulation of Ideas.

If fluency of thought requires the formulation of quantities of ideas, as Guilford suggests (in Parnes, 1962, 156-158), then working in a group or individually, the child might "brainstorm", or list his immediate responses to a stimulus. Since words are used to label and record these ideas, a great quantity of language would be produced.

The teacher can then lead the child from fluency to control by assisting him in evaluating, discarding, and revising these ideas. This becomes an important skill in the evaluation phase of the creative writing process, when the child is required to evaluate, discard and revise his ideas, words, and sentences.

Activities must also be designed to develop a flexibility of thought. (Guilford, in Parnes, 1962, 156-58). Creative dramatics activities, in which the child switches from character to character, may increase his sensitivity to varying viewpoints or interpretations.

Originality of thought may be developed through fantasy and tall-tales types of reading and writing.

Elaboration of thought may be developed through activities which require the child to produce descriptive details of an object, person, event or process.

The Creative Encounter.

If a total personal involvement is basic to all forms of creative activity, as Brown has suggested (1973, 2) then this intensity would be evident in the child's writing. If the writing is unique to the author, then his feelings, humour, or opinions would be evident. Such sincerity requires that there be a real purpose or need for writing, and perhaps, a potential audience.

Brown refers to this involvement as, "Focussing, the expression of one's individual impression of reality. . ." (1973, 13) Burrows, et al (1953, 91) reminds the reader that even in imaginary stories, children reveal their own experiences, thoughts and feelings. Petty agrees and suggests that creative writing becomes therapeutic in nature, when the, ". . . feelings, and thoughts close to a child's heart may be brought to the surface and released."

Time is an important aspect of the encounter. To become totally involved in a creation, the child needs time for experiences, ". . . to sink into deeper levels of consciousness and there be intermingled with the residue of other experiences and meanings". (Burrows, et al, 1953, 91) This intermingling of ideas is crucial if the child is to reorganize his experiences into new thoughts and patterns. Brown suggests that what the great writers share is,

> . . . the ability to see unfamiliar relationships, to link apparently disparate images to crystallize the quintessence of an experience. . .
>
> (1973, 6)

The teacher can provide opportunities for the child to compare and contrast ideas and to relate these ideas to a larger context. There must be sufficient time for playing with ideas and objects, free from the pressure to produce or complete by a deadline.

Summary.

Creative writing activity is suitable for all children. Evaluation of creative writing is difficult, and should consider the needs and purpose of the writer. The teacher can assist the child in developing criteria for self-evaluation. The process of writing creatively is similar to the process of thinking creatively. Certain classroom conditions may further aid in developing creativity in written language.

III. CREATIVE DANCE

The following section of the chapter applies the theoretical explanation of the creative person, product, process and the necessary factors for developing creativity, to a description of creative dance activity, in order to verify the following statement.

> All dance educators know that dance offers great potential for developing creativity. There is no wrong answer for the child when he expresses himself though rhythmic body movement. Divergent thinking is acceptable and encouraged. New ways of doing things, of

> expressing ideas, of creating new forms are part of the activity itself. In a school setting where so much of learning must, of necessity, take place through the process of imitation, the opportunities offered by creative dance for the operation of the creative processes must be recognized.
>
> (Rowen, in Murray, (ed.)1968, 17)

The Creative Person.

Certain evidence was presented in the previous two sections of this chapter which suggested that creative ability is not affected by sex, intelligence or certain other factors. The literature in creative dance also suggests that ability in creative dance is within the realm of all children.

> Every child has the need and right to be involved in movement experiences of an expressive nature. Dance provides opportunity for the expressive and aesthetic aspect of movement. All children, both boys and girls, should have continuous learning experiences in dance each year they are in school.
>
> (Dance Committee, 1975, 2)

Do teachers believe this? According to a study by Padfield, in 1973, they do. He surveyed a group of 76 elementary teachers in the Edmonton Public School system and found that most of them agreed that both boys and girls enjoyed creative dance.

The Creative Process.

The possibility that creative movement experiences can develop selected creative thinking skills, has been indicated in a study by Torrance (in Sweeney, 1970, 125). Forty-two third

grade children were given a four month program in creative movement. The specific content of the program was not described. A significant gain ($p < .001$) was noted in fluency, flexibility, and originality of thought, as measured by the non-verbal form of the Minnesota Tests of Creative Thinking.

The impact of the results of this study is somewhat weakened in light of the fact that it was impossible to account for the effects of time, growth, and outside influences on the children involved.

The implication of this study, and of several similar studies which are described in the last section of this chapter, is that it is quite impossible to conduct long term investigations into the effects of a generalized treatment program, such as creative movement or dance, on another learning area.

There is a marked similarity in the organization of experiences for creative dance and creative writing. Both, in fact, parallel the phases of the creative process. The following steps for planning creative dance experiences are taken from Stanley (1969, 265).

Creative Process	Creative Dance
1. Awareness	1. Introductory Activity - Presentation of an initial stimulus to bring about vigourous total body activity related to the themes or sub-themes of the lesson.

2. Incubation	2. Development - Exploration, discovery and a tentative selection of movement related to the theme or sub-theme results from the observation of movement arising in the introduction or from the presentation of new stimulus.
3. Preliminary Product	3. Application - The movement developed earlier is now adapted to create a dance.
4. (Formulation)	4. (Clarification - the dance is evaluated by the dancer(s)).
5. Communication	5. Final Performance - The created dances may be shared for pleasure or for purposes of learning through observation.

Chart II presents a summary of the phases involved in creative writing and dancing.

During the phases of the creative dance experience, the four divergent thinking skills may be developed. Fluency of thought in movement may create unpredictable images or relationships. Originality of thought in movement may result in using unconventional or "undancelike" movement to express an idea. Elaboration of thought in movement may produce gross or subtle gestures and a patterning of movement.

CHART II

AN APPLICATION OF THE CREATIVE PROCESSES TO WRITING AND DANCE

CREATIVE PROCESSES	CREATIVE WRITING PROCESSES	CREATIVE DANCE PROCESSES
Awareness - A specific experience may arouse the curiosity or the conscious awareness of a problem, a question or a challenge.	Active involvement in an experience provides a focus. Curiosity is aroused.	Movement is stimulated by an imaginative or sensory experience. Theme or dance idea is specified.
Incubation - Information is gathered. Ideas are played with and guesses or possible solutions are generated.	Discuss range of possibilities. Guided experiences to sharpen the senses, imagination, or intellect.	Explore complete range of movement possibilities. Seek additional stimulus.
Preliminary Product - A theory or product is presented.	Write. Present first version of product.	Dance. Present first version or product.
Formulation - This product is tested and accepted following revisions, or is rejected. If rejected, a return is made to the incubation stage.	Reject product or revise until satisfied.	Reject product or revise until satisfied.
Communication - The results or product is shared with an appropriate audience.	Share written product - read, publish.	Share dance - perform.

Chart III summarizes the four divergent thinking skills of fluency, flexibility, originality and elaboration, as they apply to creative writing and dance.

The Creative Product

The C.A.H.P.E.R. Dance Committee has suggested that there are two product levels in children's creative dance (1975, 2). The basic level is that of "expressive creativity", which is the personal satisfaction and pleasure the child gains from the dance, as he develops a sense of awareness and mastery of his body. In other words, the dance activity may be the creative product. In addition, the activity may culminate on an alternate level with a polished dance product that might be performed or shared.

This parallels the development of the creative writing program. Some dance, like some writing, is created for the child alone, while other dance, like other writing, is created to be shared.

The following description of the teacher's role in evaluating creative dance is similar to Brown's (1973, 15-16) description of the teacher's role in evaluating creative writing, as described in the previous section.

> Evaluation of the children should be an ongoing process and the progress of each child should be assessed in relation to his own performance. The children should be involved in this evaluation of themselves, their groups and their program.
>
> (Dance Committee, 1975, 3)

CHART III

AN APPLICATION OF ASPECTS OF DIVERGENT THINKING TO CREATIVE WRITING AND CREATIVE DANCE

Thinking Skill	Creative Writing	Creative Dance
Fluency - quantity, variety of ideas.	Variety of vocabulary and ideas.	Variety of movement ideas.
Flexibility - varying viewpoints.	Unpredictable plots and characters.	Unpredictable images and relationships.
Originality - uncommon, or unusual response.	Inventing words or literary techniques.	Unconventional or "undancelike" movement.
Elaboration - expand an idea with detail.	Modification and expansion of ideas with details.	Gestures and movement patterning.

The teacher may also wish to use evidence of some of the creative thinking process skills as a partial measure of creativity in dances. Increasing mastery of the body technique of dance may also be a suitable criterion for evaluating the work of older children.

Necessary Factors for Developing Creative Dance

A closer look at each of the necessary conditions for developing creative dance potential, further reveals the similar nature of creative dance and creative writing.

The Creative Environment.

Applying Torrance's description (in Parnes, 1962, 37) of the creative environment as characterized by a lack of coercion and a freedom of response, to creative dance classes, would indicate that Rowen is correct (in Murray,(ed.)1968, 17) in stating, "There is no wrong answer for the child when he expresses himself through rhythmic body activity." All sincere movement ideas are accepted by the teacher, just as all creative writing attempts are accepted.

Sensory Training.

Varied sensory experiences can be provided through dance stimuli, accompaniment and activity. Peter Lofthouse (1969, 43) suggested that stimuli for dance is ". . . anything that rouses the mind or that excites to action". Boorman's criteria for a suitable dance stimulus (1969, 63) demands that it appeal to each child's

imagination and that there is a varied movement potential. As in creative writing, the ideal stimulus for dance is specific enough to motivate the most hesitant child and general enough to allow for many possible responses. It would follow that a stimulus that allows only one movement response, such as learning a folk dance, allows for no creative response, like the "correct answer" type of language text that Brown warned about. (1973, 3).

Examples of specific stimuli or accompaniment for dance, can be found in all sensory areas. (Boorman, 1969, Chapters 6, 7) The largest category, sound, includes the voice, body sounds, percussion instruments and recorded music. Visual stimulus can be provided through pictures, scuplture, film and observation experiences. Dance images can be found in contrasting feeling experiences, such as snow and fire temperatures, rough and smooth surfaces, and hard and soft textures. Contrasting taste or smell experiences, such as lemon and sugar or vinegar and coffee, can stimulate dance, too.

There are many seeing, hearing, and feeling possibilities in developing relationship aspects of dance, as Stanley (1969, 165) suggests. Dancing with a partner or in a group requires alert observation to respond according to plan. Dances may be designed which require one child to stimulate a partner's dance through sound. Or, it may be a tactile sensation, a gentle tap or a rugged group huddle, which is part of the dance design.

As Stanley (1969, 256) suggests, the teacher has a major role to play in stimulating and directing dance activity. The child must not be left on his own to flounder, but must be compellingly and continually motivated by questions, challenges and images. This would imply that doing nothing more than putting on a record and asking a child to "Make up a dance," is as unsuccessful a method of motivation, as giving out paper and asking a child to, "Write a story."

Formulation of Ideas.

As Stanley's definition suggests, (1969, 265) it is in the "Development" phase of the creative dance lesson, that fluency, flexibility, originality and elaboration of thought may be developed. At this time, the child may be asked to "brainstorm" in movement, or he may be asked to vary his viewpoint, by performing one movement idea several different ways. Dance ideas, shapes, and relationships can be juggled to form any number of patterns or designs, as Rogers has suggested earlier (in Anderson, 1959, 76).

The Creative Encounter.

If the crucial aspects of a creative encounter are, as Brown suggests, (1973, 2) the factors of time and intensity of involvement, then the child must be provided with sufficient time to bring his dance to a natural close, and with meaningful stimulus and guidance to produce a dance of intrinsic value.

> . . . imagination does not function by the clock and does not necessarily produce because the teacher requests a product.
>
> (Brown, 1973, 7)

This would indicate that creative dance is not a fixed-schedule activity, but it is best developed when the need and desire arises. It would also indicate that the motivation to create a dance may come from the child rather than the teacher.

Summary.

Creative dance activity is suitable for all children. Evaluation of created dances is difficult and should consider the needs and purposes of the dancer. The teacher can assist the child in developing criteria for self-evaluation in creative dance. The process of creative dance parallels the creative thinking and creative writing processes. Certain classroom conditions may further aid in developing creativity in dance.

IV. TRANSFER OF LEARNING

The Theory.

For any kind of learning to transfer to another situation, three psychological variables must be considered.

> The term stimulus generalization refers to the fact that a given response can be elicited to some degree by a range of similar stimuli. Response generalization is a term that applies to the fact that the same stimulus can be shown to produce a range of responses. . . The concept of generalization is inseparable from the capacity of the organism to discriminate between similar stimuli and responses.
>
> (Walker, 1967, 61)

The similarity of stimuli may be described from two viewpoints. One view regards stimuli as being similar to the extent in which they produce the same response. This is the "stimulus equivalence" (Walker, 1967, 63) position. The assumption is that stimuli can not be presumed to be similar until experimentation provides a set of responses which can be compared. There is the additional problem, here, of creating a standard or criteria for measuring the similarity of these responses. In some experimental situations, this may not be a problem, such as when a specific and observable action is the required response. In other experimental situations, when a complex response is required, it may be more difficult to measure similarities of response.

The other view regards stimuli as being similar to the extent in which there are elements common to the stimuli. (Walker, 1967, 64). The assumption in this case, is that the experimenter has determined the specific physical or psychological element which is common to the stimuli involved. This is not as straightforward a task as it may seem, according to the results of several studies. (cited in Walker, 1967, 64). A study by Guttman and Kalish, in 1956, presumed the subjects were generalizing their responses to the similarity of sound, a physical element, in two stimuli. In a similar study, in 1965, Shepard concluded that the subjects were responding to a psychological similarity between the same stimuli.

The dimension of similarity among responses, may also be difficult to measure. Studies which measure simple behavioural responses in animals, such as pecking at a specific spot, may not have this problem, as do studies which attempt to measure broader or more complex educational responses, such as changes in written language. In the latter case, the desired response must be carefully described. In addition, the reliability of the investigator's responses in measuring the subjects' responses may be open to question.

The factor of discrimination must also be examined from two viewpoints. The subject may perceive the similarities between stimuli, and he may perceive the differences between the stimuli. Depending on how he is rewarded for his responses and on whether the similarities overshadow the differences, or vice versa, he may eventually learn to focus on either the differences or the similarities. If the experimenter, for example, wishes the subject to respond to the similarities, but the subject continues to respond to the differences, then it may be assumed that the stimuli are not generalized, or similar. The subject will not give the desired response, and transfer of learning will not occur.

The Transfer of Learning from Creative Dance to Creative Writing.

It has been demonstrated in the first three sections of this chapter, that the thinking processes involved in creative dance and creative writing are similar. It was suggested that the products which resulted in both activities, may be evaluated in terms of examples of the thinking skills involved in the creative process.

The model of transfer of learning, described above, can be applied to the creative dance and creative writing situations.

Stimulus Generalization.

The more similar, or generalized, the creative dance and the creative writing situations, the greater the chances of transfer of learning to occur. The practice of thinking creatively in dance, may transfer to the writing situation. In addition, if the dance activity has developed along a specific theme or topic, an advanced stage of "Incubation", or manipulating ideas may be reached if the writing focusses on the same theme or topic. If the teacher is the same in the creative dance and creative writing situations, and if the environmental situation is the same, then chances of transfer occurring are increased.

Response Generalization.

Expressive, creative movement in dance form is the response, or product, of a creative dance stimulus. Expressive, creative language in written form, is the response, or product, of a creative writing stimulus. If the stimulus for the creative

writing is creative dance, and if the creative dance situation is similar enough to that of creative writing, then a creative dance stimulus may produce a creatively written response.

Discrimination.

If the dissimilarities of the creative dance and the creative writing situations overshadow the similarities, then a creative dance stimulus may not result in a creatively written response.

The Transfer of Learning Within Art Forms.

Creative writing and creative dance share a similarity of purpose. . . that of communication. As White points out, (1969) this similarity exists between all art forms.

> Children should be able to find the same thrills in dance, music, art, poetry, in fact in any art form, because basically they are all forms of communication. Only by the realization that the skeleton of all art forms is inter-changeable can. . (children) . . begin to seek fluency and freedom of expression.
>
> (5)

Several studies have examined the inter-relationship of movement with language and art. A study conducted by Wall, in 1971, examined the relationship between pre-school children's art and their creative dance experiences. Forty pre-schoolers were randomly assigned to either the Treatment Group or the Control Group. One pre-test and two post-test samples of art were taken, and assessed by six judges. The Treatment Group received a twelve-week program of creative dance, followed by art sessions. The Control Group received only the art sessions. There was no significant difference

in the art work of the Treatment Group or the Control Group. Wall concluded that the creative dance experience had no significant effect on the art products.

A study conducted by Austin (1971) examined the effect of creative dance experiences on the perceptual motor and psycholinguistic behaviour of children with learning disabilities. Eighteen elementary school age children were randomly assigned to either an Experimental Dance Group, an Experimental Gymnastics Group, or a Control Group. Specific perceptual motor and psycholinguistic tests were administered before and after the six week period. Although large gains were made by both experimental groups, in selected psycholinguistic subtests, with the Experimental Dance Group tending to perform higher than the other groups, the differences were not statistically significant. Austin concluded that "a larger number of subjects over a longer treatment program may have resulted in significant transfer effect."

Boorman's study, in 1972, examined the effect of creative dance experiences on the vocabulary development of grade three children. Sixty children, in two grade three classes, were involved in a nine-week program. One class was randomly assigned as the Experimental Group and received a program of creative dance. The other class was assigned as the Control Group and received a program of verbal interaction. Following each lesson, the children were given a related creative writing assignment. These assignments were scored

according to a test vocabulary for both groups. Two pretests and two post-tests were also administered. Results showed a significant increase and retention of vocabulary for both groups. The Control Group showed significantly greater gains than the Experimental Group. Boorman concluded that by exploring words through dance activity, children may use this vocabulary in their writing.

Boorman used an experimental design, format and content which differed from Wall's and Austin's studies, in three important aspects.

Boorman considered that the content of the dance lessons in these studies was too specific for transfer to another mode of expression. She believed that

> . . . for such transfer to occur, the movement experiences must be sufficiently intrinsically motivating for the children to desire to give them expression in another form.
>
> (1972, 17)

For this reason, her dance lessons focussed upon action words, such as exploding and billowing, presented in an imaginative way with specific imagery.

To ensure that the children realized that the dance and language experiences were inter-related, she felt it necessary for one teacher to work in both modes. White (1969, 5) concurs that when the art forms are taught by different teachers, the students find it difficult to transfer from one form to another. In the

studies conducted by Wall and Austin, different teachers were involved in the programs.

In Wall's study, the art work was not related to the dance experience, but to a story read to both groups of children. Boorman related the conceptual image of the dance experience to the creative writing assignment. For example, if the dance lesson focussed on images of firecrackers, then the writing assignment related to firecrackers.

Boorman's study relates very closely to the present investigation, for both were concerned with the transfer of creative dance experiences to a different mode of expression. There is a noticeable difference in one major aspect. Boorman selected seventy words which were suitable for exploring in dance activity. Her purpose, in both the dance and the verbal interaction programs, was to teach these seventy words. Learning was indicated by the children using these words in their creative writing. Breadth of vocabulary development was measured by counting the number of times these words appeared in their writing assignments. Boorman's study measured the change in breadth of vocabulary, while this study measured the change in fourteen selected variables of written language.

A relationship between learning in dance and in language has been established in the development of breadth in vocabulary. No other measures of language development have been attempted.

V. SUMMARY AND IMPLICATION

The first part of this chapter reviewed briefly some of the aspects of creative theory, and described some of the conditions necessary for creativity to develop in the school situation. The next two sections applied the theory of creative development of learning in creative writing and in creative dance. The last part considered briefly the theory of transfer of learning, of the inter-relationship of the arts and described several studies which attempted to measure a transfer of learning from one mode of expression to another.

If the creative process is involved in both creative writing and in creative dance, and if the creative writing and creative dance products can be described in terms of some of the thinking skills involved in the creative process, then it seems reasonable to assume that learning may transfer from one activity to the other. Several studies have attempted to measure transfer of learning from creative dance to art, psycholinguistic ability and breadth of vocabulary. No study has yet measured transfer of learning from creative dance to creative writing.

CHAPTER III

THE DESIGN OF THE STUDY

This chapter describes the design of the study. A description of the population and the specific sample involved in this study, is followed by an outline of the method of procedure and a description of the testing instruments involved. The last sections deal with the reliability of the instrument, the treatment of the data, and a summary of the pilot study.

I. POPULATION AND SAMPLE

The population for this study consisted of those students who attended grade four classes in the Edmonton Public Schools from January to April of 1973. The sample involved a grade four class of sixteen boys and twelve girls attending Capilano School.

The principal reported that the school was attended by children from established, suburban, middle-income homes and from transient, low-income housing projects. She also described the sample class as having the greatest range in language achievement of the fourth grade classes in the school. The sample included two children who were receiving remedial reading instruction, two children who were entering a "gifted student" class the following autumn, and one child whose mother tongue was Chinese.

According to the teacher, who volunteered her class for this study, the children had no previous experience in creative dance and had spent little time in creative writing activity.

II. METHOD OF PROCEDURE

One grade four class of twenty-eight children received a five week program of creative dance. During that time, the class received twelve, twenty-minute creative dance lessons, which were held in the gymnasium during the regularly scheduled physical education period. Six of the dance lessons were followed by a thirty minute period of creative writing, which was held in the regular classroom. These six creative writing products were the "treatment tests". All sessions were conducted by the investigator.

Prior to the treatment, a pretest was administered. This consisted of the presentation of an overhead transparency drawing of a monkey. (Plate I) Fifteen minutes was allowed for spontaneous discussion with the children about the drawing. As the children talked about the character and actions of a monkey, the investigator wrote on the blackboard, the technical terms which arose from the discussion.

e.g.

orangutan Africa zoo gorilla

The children were then given paper and asked to write about a monkey.

Two days following the last dance lesson, a post-test was administered. The stimulus for writing was an over-head transparency drawing of a sea-horse. (Plate II) During the fifteen minute discussion about sea-horses, the investigator wrote the children's technical words on the blackboard. Following this, they were allowed to write about a sea-horse.

Twenty-three days following the post-test, the retention test was administered. The stimulus was an over-head transparency drawing of a hawk. (Plate III) The same procedure was followed as in the pretest and post-test. Chart IV summarizes the experimental procedure.

It was considered that the three test situations were as identical as possible to ensure that any change in scores was not the result of change in procedure. A video-tape recording of the test situations was made, to document the reliability of the test situations. The monkey, sea-horse and hawk were chosen because they were considered fairly equivalent in terms of familiarity. The monkey was chosen for the pretest because it was considered the easiest of the three to stimulate discussion. This advantage could contribute to making the pretest environment for creative writing, in which the investigator and the children were meeting for the first time, more like the following situations in which the investigator and children had developed ease and familiarity.

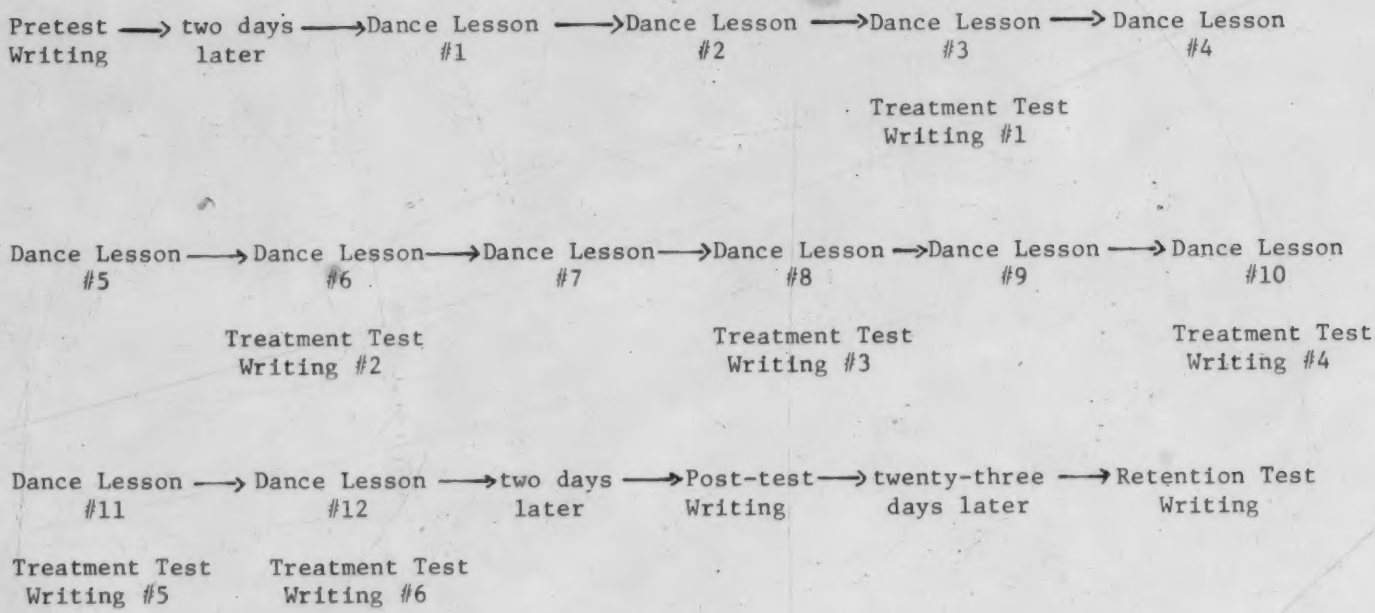
The following instructions were given to the children during the pretest and remained in effect for all the following writing sessions.

1. The children were free to choose any literary form, prose, poetry, play-writing, etc., and were allowed to use any amount of art or illustration.

2. The children were free to choose any writing implements, pen, pencil, crayons, etc., and to use their own writing paper.

CHART IV

EXPERIMENTAL PROCEDURE



3. The children were free to write on a topic unrelated to the lesson.

4. The children were instructed not to worry about spelling, but to write the words as they imagined them to be spelled. The investigator assured the children that she would know what word they meant, no matter how it was spelled. The children appeared to accept this, since very few ever asked for the correct spelling of a word.

5. The children were allowed to write as much or as little as they wished. When finished, they gave their story to the investigator and then continued with a project of their own.

6. The children were allowed to quietly trade stories when they finished. Most children found great joy in this and it was felt to be sufficient for a motivating and rewarding factor.

7. The children were told that they had as long as they liked to write their stories. The investigator did not wish to cause any tensions which a time limit might create. In the rare instance of a child needing more than thirty minutes, the investigator whispered to him that he would have to finish in one minute. So, although a time limit was set, the children were not aware of it, and, in fact, most finished in 15-20 minutes.

The Treatment Program.

The creative dance program was pre-planned with regard to vocabulary and images to be presented. However, the investigator was prepared to make changes or adjustments as the program progressed, in order to meet the needs and interests of the children. The dance vocabulary and images are included in Appendices 1 and 2.

The action words to be explored in the dance lesson were written on the gymnasium blackboard before the children arrived. Upon arrival, the children grouped themselves around the blackboard

and lessons always began with one reading of the action words. Following this the investigator immediately began the dance activity, which followed Stanley's process, as described in Chapter II.

The action words were first explored through the full range of movement possibilities. These ideas were then combined into sequences to form tentative action relationships. Finally, the ideas were crystallized into images and each child or group of children adapted the earlier movement explorations to create a dance.

Using Lesson Eleven as an example, "The Escape", the children first explored the actions of jabbing, thrusting, pushing, collapsing, creeping, pausing, peering, leaping and flying, using the teacher's voice as the accompaniment. These ideas were then developed in movement detail. The children worked on these ideas by performing them in various sequences, using the image of a prisoner who attempts an escape. Percussive instruments were used as the accompaniment, here. Finally, they were asked to develop a dance about a prisoner in response to a selection of recorded music. Most lessons culminated in a sharing of these dances. A summary of this lesson, and one other, are presented in Charts V and VI.

The action words were intended only to stimulate and direct the children into dance involvement. Therefore, the investigator did not insist that they use the selected actions in their created dances.

CHART V

LESSON 11 - THE ESCAPE

I. Action Words	II. Movement Emphasis - Details	III. Images - Sequences
JAB	JAB - small body parts used. sudden.	1. JAB-THRUST - Trapped in a bubble. Panic. (claves)
THRUST	THRUST - whole body action. sudden.	
PUSH	PUSH - different parts leading. sustained. bound flow.	2. PUSH-COLLAPSE - With great strength, push your way out. (cymbal)
COLLAPSE	COLLAPSE - release tension. sudden.	
CREEP	CREEP - vary directions, levels, speeds. bound flow.	3. CREEP-PAUSE-PEER - Travel carefully, so as not to be recaptured. (tambourine)
PAUSE	PAUSE - vary body shapes in stillness.	
PEER	PEER - dramatic use of focus. gesture. sustained.	
LEAP	LEAP - highest elevation.	4. LEAP-FLY - Enjoy your freedom. (tambourine)
FLY	FLY - quickest step for travelling. light step.	

IV. Formulation

Create a dance about an escape, using the following music:
Music - a taped collage of excerpts from, "In the Hall of the Mountain King", from Peer Gynt, by Grieg.

CHART VI

LESSONS 9 and 10 - OUTER SPACE ADVENTURE

	I. Action Words	II. Movement Emphasis - Detail	III. Images - Sequences
LESSON 9			
	REVOLVE	REVOLVE - personal space (stationary). vary body base for action. vary speeds.	1. REVOLVE-ORBIT. Alternate actions in your own time. Explore ways of making circles. (cymbal)
	ORBIT	ORBIT - general space (travel). vary level, speed, body shape.	
	ZOOM	ZOOM - direct action, zig-zag pathways. stop in empty spaces and change direction.	2. REVOLVE-ORBIT-ZOOM. Vary actions in your own time. Create a universe of comets, stars, asteroids, planets. (cymbal)
LESSON 10			
	BLAST OFF	BLAST OFF - contrast tight, curled shape with full body extensions. sudden, maximum elevation.	3. BLAST OFF-REVOLVE-ORBIT. Begin your travelling through space, from wherever you land when you blast off. (cymbal)
	DIGEST	DIGEST - explore changing body shapes. alternate curls, stretches, add twists.	4. DIGEST-OOZE-ORBIT-REVOLVE. You are enclosed in a giant stomach. (cover class with parachute) The stomach changes shape as it digests you, then slowly you ooze out and go back into outer space. (guiro)
	OOZE	OOZE - sustained. whole body action on floor. different parts leading action.	

IV. Formulation

BLAST-OFF REVOLVE- ORBIT- ZOOM- DIGEST- OOZE- REVOLVE- ORBIT

Using the following piece of music, create an outer space stomach monster dance.

Relationship Factor-In order to create an interesting picture, there must be variety in shape, level, speed and action. Be aware of those around you so that you are different from them.

Music - a taped collage of sounds from, "Space Journey" and "Creature", on Moving Percussion and Electronic Sound Pictures. (E.M.I. label)

The children then returned to their classroom. The image, or topic, "The Escape", was written on the blackboard and as the paper was being distributed, a spontaneous discussion of several minutes was allowed. During this time, the investigator wrote technical terms suggested by the children on the blackboard. The children then wrote their stories. The same controls were used, as stated for the pre- post- and retention tests.

The creative writing experiences were structured according to Armstrong's plan, as described in Chapter II. The "Intake of Experience", or stimulus, for writing was the creative dance lesson. This provided an active and specific experience which involved all children while providing for an individual freedom of interpretation. While the paper was being distributed the children were involved in the "Discussion", or oral, stage of language development. As the children made their suggestions about the topic, a wide range of possibilities was established. The "Expression", or written, stage translated the child's unique interpretation of the experience into a story, poem, or other literary product. Finally, as the children exchanged papers with others of their choice, an informal and, usually, an unspoken "Evaluation" stage was entered. No formal, teacher-directed evaluation was initiated, since this would have interfered with the controls of the experimental situation.

The design of this study is very similar to Boorman's 1972 study, which is described in Chapter II. As described in the following paragraphs, certain similarities of design in the two studies were of particular importance.

The content of the dance lessons in this study focussed upon effort actions and were presented in an imaginative way with specific imagery. In other words, the dance lesson was not made unnatural for the purpose of teaching language concepts, but attempted to provide an enjoyable dance experience.

To reinforce the relationship between the dance and the writing activity, one teacher, the investigator, taught both classes.

This study differed from Boorman's in several ways. One grade four class was involved in a five week program of creative dance. The grade four level was used because it was expected that they would produce a large enough quantity of language for satisfactory statistical analysis.

Following half of the dance lessons, the children were given a related creative writing assignment. This change was made following discussion with Boorman, who suggested that the children's continuing interest in the program could be curtailed if a routine of dance followed by writing was established. The children wrote following dance lessons #3, 6, 8, 10, 11, 12.

One pre-, post- and retention test was written. This number was considered sufficient for purposes of comparison.

Boorman selected 70 words which were suitable for exploring in dance. Her purpose, in both the dance and verbal interaction programs, was to teach these 70 words. Learning was indicated by the children using these words in their creative writing. Since breadth of vocabulary development was measured by counting the number of times these words appeared in the writing, the children were encouraged to use these words in their writing assignments.

In this study, a selected vocabulary of 58 words was explored in the dance lessons. However, the children were not directly encouraged to use these words in their writing, and the frequency of these words appearing in the writing, was not measured. In other words, the treatment program of this study did not attempt to effect a transfer of specific vocabulary from dance to language. Instead, the study looked at the overall transfer effect dance might have on many aspects of written language development as revealed in the creative writing. These aspects are explained in detail later in this chapter.

III. INSTRUMENTATION

A number of researchers have devised creative writing test instruments. Peel (1968) includes a comprehensive description of many of them. The criteria used for scoring in the best known of these, the writing subtest of the Minnesota Test of Creative Thinking

and Writing focusses exclusively on thinking processes, the ideas, concepts and qualities of originality, rather than on literary processes, the language used to express these thoughts. Therefore, it was unsuitable for use in this study, which focussed on language.

The investigator is indebited to the work of three researchers who have designed instruments for measuring variables in creative writing. The instruments used in this study are mainly based on the work of McKie (1963), Carlson (1973) and Brown (1973).

A Quantitative Analysis of Creative Writing.

Each pre- and post-test story was analyzed in a general, quantitative manner, according to the following scheme of analysis:

1. Total number of words written, including those in the title and appearing anywhere on the page. (Token)
2. Total number of different words written, including those in the title and appearing anywhere on the page. (Type)
3. Number of modified nouns.
4. Number of modified verbs.
5. Number of function words.
6. Number of content words.

Function words are those which do not supply information, but provide the structure for the language.

e.g. the, and, a, with, he

Content words are those which provide specific, conceptual information.

e.g. submarine, running, black, suddenly

The modification measures were taken to test for elaboration of thought through adjectives and adverbs. The content and function measures would indicate changes in the amount of information included in the writing. The type and token measures would indicate any change in the variety or range of vocabulary used.

A Qualitative Analysis of Creative Writing.

All of the writing produced for this study was analyzed according to ten selected variables of written language. For the subject who was present every day of the study, this included nine stories: a pre test story, six treatment stories, a post-test story and a retention test story.

It must be pointed out that the criteria for the analysis of writing in this study, is not a general instrument for the analysis of children's writing. The hypothesis of the study was that because of similarities of structure and purpose in creative writing and creative dance, a program of creative dance may effect changes in creative writing. This instrument examines only those aspects of written language which were hypothesized to change, as a result of these dance experiences.

If experience and skill in movement expression transfers to a written expression, it was considered that the child's writing

may change in terms of specificity of language, stylistic devices, sensory details and writer involvement. Language may be specific in terms of vocabulary and modification, and language may be used as a stylistic device to create an effect. The inclusion of sensory details creates a more specific, three dimensional picture. By directly or indirectly expressing his reactions, feelings, and opinions, the writer adds an element of sincerity and individuality to his statement.

All examples used in the following explanation of the ten variables were drawn from the children's writing produced in this study.

Specificity of Language

Hayakawa (1962) noted that language learning " . . . is a matter of correctly relating our words to the things and happenings for which they stand." (242) To use the correct word, one must use the precise word. The precise word is that which is most specific or concrete.

Children's language development may progress, in part, from the general to the specific. Most six year olds can distinguish between a "dog" and a "cat". In a few years, those children may be speaking of "poodles, spaniels, Persians and tabbies". In written work, too, we encourage children to use the specific word. This not only provides greater reader interest, but gives the writing a personal quality.

> In writing we stress the importance of dealing in specific cases rather than high levels of abstraction, for the skilled author holds out interest with the rich detail with which he enlivens his writing.
>
> (Tiedt and Tiedt, 1967, 144)

The language used in the children's writing was analyzed in terms of specificity of nouns, verbs, adjectives and adverbs.

Noun

General, categorical nouns were not considered precise. Specific nouns with a limited conceptual range were awarded one point. The following examples have been created to illustrate this category.

The following nouns are not considered specific, for purposes of this study.

things stuff men boy animal

The following nouns are considered specific for purposes of this study.

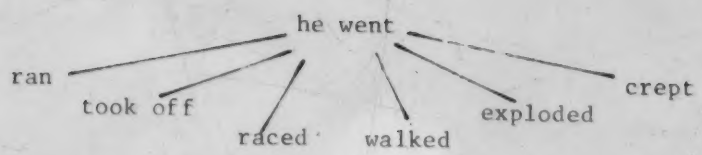
beans chairs farmers paperboy monkey

Proper names of people, places and things were also considered specific. e.g.

Eggbert downed three kraut Spitfires.

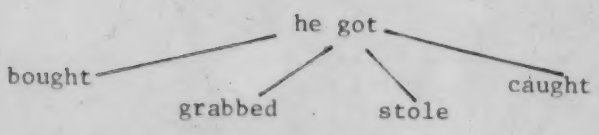
Verb

Generalized verbs which did not indicate "how" an action was performed were not considered precise. Included here are verbs like, "to go, to see, to get, to be". The diagrams below indicate verbs which are specific.



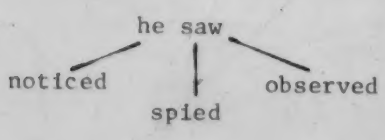
(no point)

(one point each)



(no point)

(one point each)



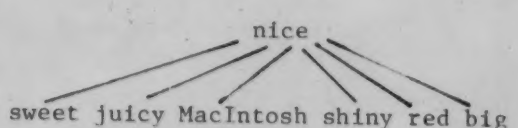
(no point)

(one point each)

Modification.

Modification expands the reader's understanding of a concept (noun or verb) by limiting its conceptual generality. Expansion of a concept through detail characterizes elaboration of thought..

Adjective.



(no point)

(one point each)

The word "nice" distinguishes the noun it modifies from one which is "not nice", but it doesn't suggest any particular or specific quality. What is nice about it? Is it the colour, or the taste or the size? It may be replaced by more specific words such as, "sweet,

juicy, MacIntosh, shiny, red and big". They supply meaningful information about the noun. Specific adjective phrases also scored points.

Adverb.

Only adverbs and adverbial phrases which described "how", by specifying the physical, or movement quality of an action, were considered in this analysis. The following examples have been created to illustrate this case.

He went into the kitchen. (no point)

Slowly, he went into the kitchen. (one point)

Dragging his feet, he went into the kitchen. (one point)

He went into the kitchen, after getting dressed. (no point)

Summary.

Note also the following examples of Specificity of Language.

I had to pay for what I bought with my Chargex.

verb noun (two points)

I crashed the wall but I didn't hit anyone else.

verb verb (two points)

That bad little green mouse disenagrded his rocket.

three adjectives noun verb noun (six points)

He was just orbeting and he saw an astreroid it went pealing by.
verb noun verb (three points)

He blew the sand off the trapdoor and it was a door to a coffin
verb noun noun noun(five points)

made of wood.
adjective phrase

When the asternot got back they were tacking picture like mad.
noun adverbial phrase
(two points)

I screamed and screached all day and night.
verb verb (two points)

Stylistic Devices

Written language may be used in an artistic manner to create an effect or a mood.

> Many alert, observant boys and girls see metaphors and similes in their surrounding milieu as they have direct encounter with their environments. Other youngsters love to use tongue twisters and speak in an alliterative style. Frequently, these authors naturally personify inanimate objects.
>
> (Carlson, 1973, 2)

The children's writing in this study was analyzed in terms of novelty, graphics, figurative language and the aural effects. Originality of thought may be evident in the novelty, graphics, and aural effects categories, as the child uses unconventional methods of written expression. Flexibility of thought is required in the figurative language category, in order to compare one idea to another very different idea or image.

Novelty

The child loves to invent new words, to use conventional and internal rhyme, to interject expressions, to exaggerate and to use numbers for effect. The following underlined examples of Novelty scored one point each.

Oh no he got ayeened by a feroscous monster. (expression)

Gadzooks pieces were flying everywhere. (expression)

It was 'appy pappy. (internal rhyme)

5,4,3,2,1.....Blast off. (numbers)

The team that Sammy was on won 1,000,000,000 to 4 (exaggerate)

Glip, and Glop Glop set off in their glipyglopmobile... (new word)

When a man blasts off, he must neve have a cough, For if he did, the kid, would catch it, or fetch it. (conventional rhyme)

Punctuation - Graphics.

The inclusion of graphics, such as drawing, decorations, over-sized print and extra punctuation is another stylistic device which was considered. Any illustration to a story also scored a point.

..... and killed them to— ge— the—er.

All us guys in grade four decided that school was ç3@!*8/.

(scored one point for circle of lines and one point for over-sized print)

Figurative Language.

The dance activity in this study often allowed the children to identify or "become like" something. It was speculated that this physical identification might transfer to the written work, surfacing as similes, metaphors, analogies or in personification. Any instance of figurative language, whether it was trite or uncommon, scored a point.

> Then the 18 hour gurtel jumped into his wife's panti-hose. (personification)
>
> ...Thomas Thunder and his sister lin lightning were playing boling and making so much noise. (two personifications and an analogy - three points scored)
>
> It was raining dogs and cats. (metaphor)
>
> It sounded like the sweetest music. (simile)

Aural Effects.

The use of words which sound like what they describe (onomatopoeia), the use of the same beginning sounds in a series of words (alliteration), and the use of the repetition of sounds, words, phrases and sentences were considered. One point was given for each occurrance of onomatopoeia and for each sentence which contained alliteration. To prevent scoring repetitions which a child has made through carelessness, repetitions within a sentence received a scoring point only when they occurred in a pattern of three or more.

So Don't Play With Matches. So don't play with matches. (repetition)

m,m,m,m,m,m,m,m,m,m.p Yumey.. (repetition)

Freddy Freckle went out to hunt frecklonians in the fluky forest of the Flunkin's village. (alliteration)

Yeuch! (onomatopoeia)

Sensory Details.

Children's writing is often of a panoramic nature. Some children tend to create a running commentary to accompany their scenes of action. They write about what happened and what happened next. Writing based on this level of description creates a one-dimensional picture. As Lloyd Brown (1973) points out, it is vitally important that the young author,

> . . .be encouraged to describe in his writing details of the things he has experienced, including auditory, olfactory, taste, and tactile impressions. When a writer describes such detail in language that is fresh, that is his own, his writing reveals a unique relationship between him and his subjects, which is what all good creative writing is about.
>
> (13)

The process of expanding the writing through sensory detail involves an elaboration of thought.

Sight.

A visual expression was scored only if it was microscopic rather than panoramic. In other words, a visual expression had to

be a sensitive detail rather than a picture post-card generalization. For example, the following sentence is too general to be sensitive.

It was a bug.

However, the following examples scored one point each.

It was a little, black bug.

He looked through the window he saw green slime.

Sammey looked at the monkey it did not move it Just stood there.

Sound.

The following are examples of sensory expressions of sound detail. Note that the third example is an implied, rather than a direct expression.

Suddenly it came closer and closer making scary noises.

... and landed thump on the ground.

Then the clock began to gong.

Then suddenly they heard a crash of thunder

Touch.

The following are examples of sensory expressions of touch detail.

It was sticky so he had to lift his feet high.

And you could also feel someone tickle you or touch you around the neck.

Taste.

The following are examples of sensory expressions of taste detail.

m,m,m,m,m,m,m,m.p Yumey.

Eating hotdogs on a bun.

Smell.

The following are examples of sensory expressions of smell detail.

At last the man was free into the open world around fresh air..... and you could smell the breeze.

The following example illustrates how Sensory Details were scored.

> And after the birds were singing (sound) and you could smell the breeze (smell) see the rainbow (sight). It sounded like the sweetest music. (sound)
>
> - four points scored

Writer Involvement

Lloyd Brown suggests that writer reaction "... may take the form of an expression of relationship, a generalization, an expression of like or dislike, an interpretation of events." (1973, 20) Hennings and Grant (1973) take a more subjective view, suggesting that "... personal emotions and reactions appear to be of four kinds: feelings, preferences, opinions, and judgments." (27)

In any case, it should be recognized that even child writers will express what is personal and unique by indirect means. They may use a character as their stand-in, to express their own feelings. Or they may allow themselves to live through the characters they create.

This section of the analysis considered direct and indirect writer reaction and involvement.

Direct. All of the stories were analyzed in terms of direct writer involvement. Each expression of preference, feelings (of a physical nature) and emotions (of a psychological nature) scored one point, whether it was expressed in the first or third person.

So the man was scared stiff. (emotion)

He was sad because he thought they had forgotten him... (emotion)

Am I died yet? (feeling)

I hated it so I planned to escape today. (preference)

The eagle couldn't stand it any longer... (preference)

Indirect.

It is difficult to set criteria or give examples of indirect writer involvement, as this quality usually pervades the whole of a story or poem. The elements of specificity of language, sensory details and stylistic devices all contribute

to building a personal statement. It is difficult to score indirect writer involvement because it often is a question of degree. Certain topics, more than others, will elicit a greater response from children, just as certain children, more than others, will have a greater response to any topic. For this reason, this aspect of written language was not included in the instrument.

Summary.

This instrument was designed to measure certain aspects of children's creative writing. Language was examined for precision of meaning in vocabulary and for artistic effect in the form of novelty, graphics, figurative language and aural effects. The inclusion of such personal touches as sensory detail and the expression of involvement as a preference, feeling, or emotion also scored points.

The importance of these aspects of written language development can not be underestimated. "These are the fundamentals of language, control of them means power and facility in writing." (Brown, 1973, 15)

IV. SCORING PROCEDURE

Pretest and post-test writing was analyzed first, according to the quantitative language variables. All writing was analyzed according to the qualitative language variables. Chart VII summarizes the major criteria for measuring each variable.

The scorer read the piece of writing once, to get the overall impression of the text, and then re-read it many times, each time looking for and scoring one of the criteria. Scores were tabulated for each subject on his score sheet. (see Appendix 3) All written language on the page was considered, whether it appeared in the text, the title or the illustrations. The only language not considered was a closing of, "The End".

Quantitative Analysis of Writing.

Each occurance of one of the following criteria scored a point:

modified noun modified verb content word function word

each word written each different word written

Modified Noun.

If a noun had one or more adjectives or adjective phrases, it scored a point.

e.g.

That bad little green mouse disenagraded his rocket.

1 point no point

CHART VII

SUMMARY OF THE CRITERIA FOR THE ANALYSIS OF CREATIVE WRITING

Variable	Criteria
Quantitative Analysis	
1. Modified Noun	A noun with at least one modifier.
2. Modified Verb	A verb with at least one modifier.
3. Content Word	Provides specific, conceptual information.
4. Function Word	Provides no information, but a structure for the language.
5. Total Words Written	Words appearing anywhere on the page, excluding, "The End".
6. Different Words Written	The first time a word appears in the writing it scores a point.
Qualitative Analysis	
7. Noun	Specific noun with limited application.
8. Verb	Specific verb which indicates "how" an action is performed.
9. Adjective	Supplies meaningful information.
10. Adverb	Specifies "how" an action is performed.
11. Novelty	Use of rhyme, expressions, exaggerations, numbers or invented words.
12. Punctuation-Graphic	Drawings, decorations, over-sized print and extra punctuation.
13. Figurative Language	Similes, mataphors, analogies and personification.
14. Aural Effects	Onomatopoeia, alliteration, repetition of sounds or words.
15. Sensory Details	Expresses or implies a sight, sound, touch, taste or smell detail.
16. Direct Writer Involvement	Expressions of preference, feelings or emotions.

Modified Verb.

If a verb had one or more adverbs or adverbial phrases, it scored a point.

e.g.

When the asternot got back they were tacking pictures like mad.

no point 1 point

Content Word.

If a word gave specific conceptual information, it scored one point.

e.g.

That bad little green mouse disenagraded his rocket.

6 points

Function Word.

If a word did not give specific, conceptual information, then it scored a point in this category.

e.g.

That bad little green mouse disenagraded his rocket.

2 points

Each Different Word Written (type)

The first time a word appeared in the writing, it scored a point. Note that this criteria applied to the whole of a story, not to each sentence.

Each Word Written (token).

Every word on the page, whether it appeared in the title, text, or illustrations, scored a point. Only a closing the "The End",

did not score points.

e.g.

If the following example was an entire story, the type and token words would be scored in the following manner.

The man saw the boy and the girl and the dog.
The dog was barking. The dog was a poodle.

Type - The following words are the different words:

the, man, saw, boy, and, girl, dog, was, barking, a, poodle
(11 points)

Token - All other words in the text are repeats of these eleven words. The total number of words in the text are twenty. Consequently, twenty points are scored in the Token category.

Qualitative Analysis of the Writing.

Each occurance of one of the following variables scored one point:

specific noun, verb, adjective, adverb, novelty, punctuation-graphics, figurative language, aural effects, sensory detail, direct writer involvement.

If an example of one of the variables occurred more than once in the same piece of writing, it received a point for each occurance.

In addition, the total number of points scored for each story was calculated, as was the total number of words written.

Example One.

The Baled Eagle

> Once upon a time a Baled Eagle was fling high in the sky. The Eagle's named Birdbrain. It was a nice sunny day in the mountains in the Southern United States. Birdbrain keeped away every Eagle from his territrie in the mountains. Birdbrain had a mate and the eggs all ready hatched too.

Scoring Procedure:

Noun	Verb	Adjective	Novelty
Baled Eagle-2	hatched-1	Southern-1	Birdbrain-3
eagle('s)-2	fling-1	sunny-1	
Birdbrain-3			
mate-1			
United States-1			
territrie - 1			

The scores were tabulated in the following way:

Noun	Verb	Adjective	Novelty
10 points	2 points	2 points	3 points

Variable Total	Total Words Written
17 points	56

The "Baled Eagle" scored two points because the title was included in the analysis. "Baled" was not considered an adjective modifying "Eagle" because "Baled Eagle" is a proper name, like "German Shepard" or "Tom Brown". The subject's words were accepted for scoring credit even if they were mispelled. Proper names were credited even if they were not capitalized. Words can score twice,

in different categories, as in the case of "Birdbrain". It scored as a specific noun and as a novelty word.

Example Two.

> When a man blasts off, he must never have a cough. For if he did, the kid Would catch it, or fetch it.

Scoring Procedure.

Noun	Verb	Novelty
cough-1	blasts off-1 fetch-1	internal rhyme-3

The scores were tabulated in the following ways:

Noun	Verb	Novelty
1 point	2 points	3 points
Variable Total		Total Words Written
6		23

V. RELIABILITY OF SCORING

The reliability of the scoring done by the investigator, using the qualitative analysis of writing, was obtained by measuring inter-scorer agreement. A random sample of four stories was analyzed by another marker, a practicing English teacher. The marker was provided with the scheme of analysis for scoring points, as described earlier in this chapter, and a scoring sheet.

The Arrington Formula, as reported in Jackson (1968), was used to compute the reliability score. The formula is (2 X agreements) divided by ((2 X agreements) + disagreements). The percentages of agreement were as follows:

100% - sensory details, aural effects, direct involvement.

97% - specific nouns, novelty

96% - specific adjectives

94% - punctuation - graphic, figurative language, variable total

93% - specific verbs

80% - specific adverbs

These percentages indicate that the reliability of the scoring may be considered satisfactory.

VI. TREATMENT OF THE DATA

All creative writing samples were scored using the instrument created specifically for this study.

In order to compare each variable in each test situation, it was necessary to convert the raw scores into ratios. With the exception of the Content-Function Ratio, this was done by dividing each raw score by the total number of words in the piece of writing. Content-Function Ratio was calculated by dividing the number of content words by the number of function words.

Converting the raw scores yielded several useful ratio scores. The Variable Total Ratio (VTR) score, indicated what proportion of the writing included examples of the ten language variables. In this way, a poem of twenty words which scored a total of 18 points could be compared to a story of three hundred

words, which scored a total of 18 points. The VTR score of the poem (90%) indicated that it was a higher quality product than the story (6%) in terms of the criteria of analysis.

The Content-Function Ratio (CFR) score indicated the amount of information included in the writing.

The Type-Token Ratio (TTR) score indicated the amount of variety in vocabulary. Hypothesis 1 was tested by analyzing the results of the quantitative language instrument. Ratio scores for each of the four variables were programmed for two groups, pretest and post-test. A "t" test of the significance of the difference between the means of each variable for the two groups was performed.

In order to test Hypotheses 2, 3 and 4, the results of the qualitative language instrument were analyzed. Ratio scores for each of the ten variables and the variable total were programmed for five groups. These were the pretest, highest treatment test, average treatment test, post-test and retention test groups. The highest treatment test scores for each child were taken from his story with the highest VTR score. The average treatment test scores for each child were calculated by determining the mean score of each of the variables in the treatment stories.

A Oneway Analysis of Variance was performed to determine any significant difference in the means of the variables for each group. A Multiple Range test using the Newman-Keuls procedure determined the homogeneity of the five groups of scores for each

variable, in order to determine which groups differed significantly from the others. In addition, a "t" test comparison of the pretest VTR score with all other VTR scores was necessary.

VII. PILOT STUDY

The purpose of administering a pilot study was to determine the most suitable grade level and to provide some indication of which aspects of written language might show change.

The grade two, three and four classes of one small school in Edmonton, were given four, twenty-minute sessions of creative dance, followed by a twenty-minute session of creative writing. As a result, it was decided to use grade four students in the major study, because the grade two and three students produced a very small quantity of writing. With the grade four students, there was more language to analyze, and this was considered an advantage because a statistical analysis of the data would be performed.

An analysis of the writing produced during the pilot study suggested that there were certain aspects of written language which showed a marked change, even over the four lesson period. This information was used in designing the instrument for analyzing the writing produced in the major study.

VIII. SUMMARY

In this chapter a description of the procedure followed in the study was presented. The sample was described and the criteria used in designing the instrument for analyzing the writing was explained. Following a description of the results of the reliability test, and of the statistical procedures involved, the chapter concluded with a brief outline of the pilot study.

CHAPTER IV

ANALYSIS OF THE DATA

The purpose of this chapter is to present the findings of the study. The creative writing of grade four students was analyzed before, and two days following a program of creative dance, in terms of four variables of the quantitative aspects of written language. The writing was also analyzed before, during, two days following and twenty-five days following a program of creative dance, in terms of ten variables of the qualitative aspects of written language.

All statistical analysis was done at the Computer Services Division, of the University of Saskatchewan.

I. AN ANALYSIS OF THE QUANTITATIVE VARIABLES OF WRITTEN LANGUAGE

The writing produced during the pretest and post-test was analyzed in terms of the modification of nouns and verbs, the amount of information included, as measured by the frequency of content and function words, and the amount of variety in vocabulary, as measured by the number of different words used.

The modification was measured by determining the Modified Noun Ratio (MNR) and the Modified Verb Ratio (MVR) for each story. This was found by dividing the number of modified nouns and verbs by the total number of words in the piece of writing. The amount

of information included was measured by determining the Content-Function Ratio (CFR) for each story. This was found by dividing the number of content words by the number of function words in the piece of writing. The variety or range of the vocabulary was measured by determining the Type-Token Ratio (TTR). This was found by dividing the number of different words by the total number of words in a piece of writing.

A comparison of the pretest and post-test scores for each variable was made using a "t" test analysis. The results of this analysis are presented in Table I.

Modified Noun Ratio.

Table I indicates that the mean pretest MNR score was 0.0307 and the mean post-test MNR score was 0.0598. These scores differed significantly. ($p < .01$).

Modified Verb Ratio (MVR)

The change in the MVR scores was in the expected direction, with the post-test score slightly higher than the pretest score. This difference was not statistically significant.

Amount of Information Included (CTR)

There was a significant rise, ($p < .05$) in the amount of information or idea words included in the writing. Table I illustrates that 49% of the language of the pretest and 59% of the language of the post-test provided specific information. This

TABLE I

Comparison of Quantitative Writing Variables
in the Pretest and Post-test

VARIABLE	TEST	MEAN	S.D.	MEAN DIFF.	t	p
Modified Noun Ratio	Pre	0.0307	0.021	-0.0291	-3.84	0.001**
	Post	0.0598	0.333			
Modified Verb Ratio	Pre	0.0165	0.019	-0.0103	-1.66	0.111
	Post	0.0268	0.023			
Content Function Ratio	Pre	0.4926	0.162	-0.1013	-2.72	0.013*
	Post	0.5939	0.182			
Type Token Ratio	Pre	0.5622	0.112	-0.0383	-1.11	0.280
	Post	0.6004	0.137			

** $p < .01$

* $p < .05$

rise may indicate a greater involvement of the writer, a clearer focus in the writing and subsequently, a greater level of reader interest.

Variety in Vocabulary (TTR)

The change in the TTR score was in the expected direction, but the post-test group was not significantly higher than the pretest group. This may indicate that the range of the words known did not change.

Summary.

Post-test scores were consistently higher than pretest scores on the quantitative variables of:

1. Modification of Nouns (MNR)
2. Modification of Verbs (MVR)
3. Amount of Information Included (CFR)
4. Variety of Vocabulary (TTR)

There was a significant difference between the writing performance on a pre-test and a post-test in terms of the MNR and the CFR scores. Consequently, Hypotheses 1i and 1iv are rejected. There was no significant difference between the writing performance on a pretest and a post-test in terms of the MVR and the TTR scores. Therefore, Hypotheses 1ii and 1iii are accepted.

II. AN ANALYSIS OF THE QUALITATIVE VARIABLES OF WRITTEN LANGUAGE

The ten qualitative aspects of the writing analyzed in this study were: Noun, Verb, Adjective, Adverb, Novelty, Aural Effects, Figurative Language, Punctuation-graphics, Sensory Details, and Direct Writer Involvement.

Variable Total Ratio (VTR)

The overall change in ten qualitative variables was measured by the VTR score. This measure was calculated by dividing the number of variable points in each story by the number of words written. This score indicates the amount or proportion of the writing which contained examples of the qualitative variables. The results are presented in Table II.

The class mean VTR scores were found and compared in each of the five test situations; Pretest, Highest Treatment Test, Average Treatment Test, Post-test and Retention Test, using a One-way Analysis of Variance. The results of this analysis are presented in Table II. The mean VTR scores were as follows: pretest 0.3586, highest treatment test 0.6307, average treatment test 0.4525, post-test 0.4470, and retention test 0.3873. All other VTR scores were higher than the pretest VTR score. Further, the VTR scores of the highest treatment test, average treatment test and post-test were significantly higher ($p < .01$) than the pretest score. The retention test VTR score approached,

TABLE II

Summary Comparison of Mean VTR Scores

	TEST				
	Pre	HiT	AvT	Post	Retn
Mean	0.3586	0.6307	0.4525	0.4470	0.3873
S.D.	0.099	0.199	0.085	0.120	0.080
Difference With the Pretest Mean	-	-0.2721	-0.0939	-0.0896	-0.0377
t	-	-6.43	4.10	-2.85	-1.36
p	-	0.000**	0.000**	0.009**	0.187

** $p < .01$

but did not attain, a statistically significant difference ($p < .187$). Table II illustrates a large gain in VTR scores during and immediately following the treatment program. This result indicates that the treatment program had a significant effect on the writing, since the proportion of writing which contained examples of the ten qualitative language variables increased significantly.

To further explore the differences in the VTR scores, a Multiple Range test, using the Newman-Keuls procedure, was undertaken. The results of this analysis are presented in Table III. This analysis indicated that the mean VTR scores fell into three homogeneous subsets. In these subsets, no pair of scores had means which differed by more than the shortest significant range for a subset of that size. Subset Group One contained the pretest and retention test scores. Subset Group Two contained the retention test, post-test and average treatment test scores. Subset Group Three contained the highest treatment test score. This indicates that the post-test and average treatment test scores differed significantly from the pretest and highest treatment test scores, and that the highest treatment test score differed significantly from all other mean VTR scores.

The significant differences between the subsets were further analyzed using a "t" test. The results of this analysis are presented in Table IV. As this table indicates, the highest treatment test mean VTR score differed significantly from all other

TABLE III

Results Of The Multiple Range Test Of VTR Scores

Group	Homogeneous Subsets	Test
1	0.3586, 0.3873	Pre, Retn
2	0.3873, 0.4470, 0.4525	Retn, Post, AvT
3	0.6307	HiT

TABLE IV

Results Of The "t" Test Analysis Of VTR Scores

Test	Differs From	p<
HiT	Pre	.01
HiT	AvT	.01
HiT	Post	.01
HiT	Retn	.01
AvT	Pre	.01
Post	Pre	.01

mean VTR scores ($p < .01$). The post-test and average treatment test mean VTR scores differed significantly from the pretest mean VTR score ($p < .01$).

To further analyze the differences in the VTR scores amongst the groups, an examination was undertaken of the range of these scores. Table V presents the five lowest and five highest VTR scores in each test group. There is clearly a difference between the lowest pretest sub-group and the two lowest treatment test sub-groups. Those children who performed poorest in the treatment test groups, all performed better than the poorest in the pretest group. The highest scores in the highest treatment test group were much higher than in any other group. The individual scores in the average treatment test and the post-test sub-groups were quite different from each other, as were the individual scores in the pretest and the retention test sub-groups. Thus it may be seen that the range of the highest treatment test group scores was very different from all other groups. This accounts for the large statistical significance ($p < .01$) of the difference between the highest treatment test group and all other groups. It may also be seen that the lowest and highest ranges in the average treatment test and post-test group scores were different from the pretest group scores. This accounts for the large statistical significance ($p < .01$) of the difference between the average treatment test and post-test groups and the pretest group.

TABLE

High and Low Sub-groups of VTR Scores

GROUP	TEST Pre	HiT	AvT	Post	Retn
Low	11	37	31	21	24
	25	37	31	27	26
	25	38	32	28	28
	25	39	33	34	29
	28	43	33	38	30
High	43	83	54	57	45
	45	90	55	57	47
	49	91	55	57	47
	51	96	56	64	50
	64	121	57	73	53

This general pattern of the differences between the test groups is reflected in Table VI. This table presents the VTR scores for each child. Absences are noted and any drop in score when compared with the pretest score is also noted. Eighty-two of the 101 scores, or 79%, remained the same or increased. Eighteen of the 28 children consistently performed above their pretest level. Subjects 7 and 20 consistently performed below their pretest level. Subjects 17, 22, and 26 scored highest in their post-test writing and Subject 2 scored highest in his post-test and retention test writing. All other subjects scored highest in their highest treatment test writing.

Thus it may be seen that most children raised their writing scores above their pretest level and that most children scored highest in the highest treatment test writing. As indicated in Table VII, the amount of writing decreased following the pre-test. The shortest average story length occurred in the highest treatment test group. When this is considered with the results of the analysis of the VTR scores, it may indicate that this group of stories scored higher, in part, because they were shorter. A smaller piece of writing may be easier to focus upon and to handle well in terms of the language. An examination of the actual stories from this group reveals that this is the case. The two stories with the highest VTR scores in this group are reproduced on the following pages. (Figure I and II). They are short and focus sharply on one idea or image. No word is wasted.

TABLE VI

VTR Scores - All Subjects and All Tests
(expressed in percentages)

SUBJECT #	TEST				
	Pre%	HiT%	AvT%	Post%	Retn
1	11	68	51	57	38
2	28	39	31	41	41
3	34	52	45	50	43
4	51	91	55	38b	47b
5	25	90	52	45	26
6	25	121	55	40	36
7	64	60b	50b	47b	32b
8	37	72	54	57	53
9	42	57	43	38b	44
10	49	73	45b	a	40b
11	31	37	31	a	24b
12	25	38	32	28	30
13	37	66	53	a	37
14	33	64	48	21	34
15	31	68	51	44	43
16	33	67	46	a	44
17	38	43	33b	64	a
18	45	68	54	52	a
19	43	47	39b	49	29b
20	38	37b	33b	34b	28b
21	31	56	46	43	50
22	43	69	50	73	a
23	39	54	45	42	a
24	31	55	37	27b	41
25	38	96	56	43	a
26	32	47	35	57	47
27	32	83	57	a	a
28	38	48	40	38	45

a = absent

b = indicates score lower than Pretest score.

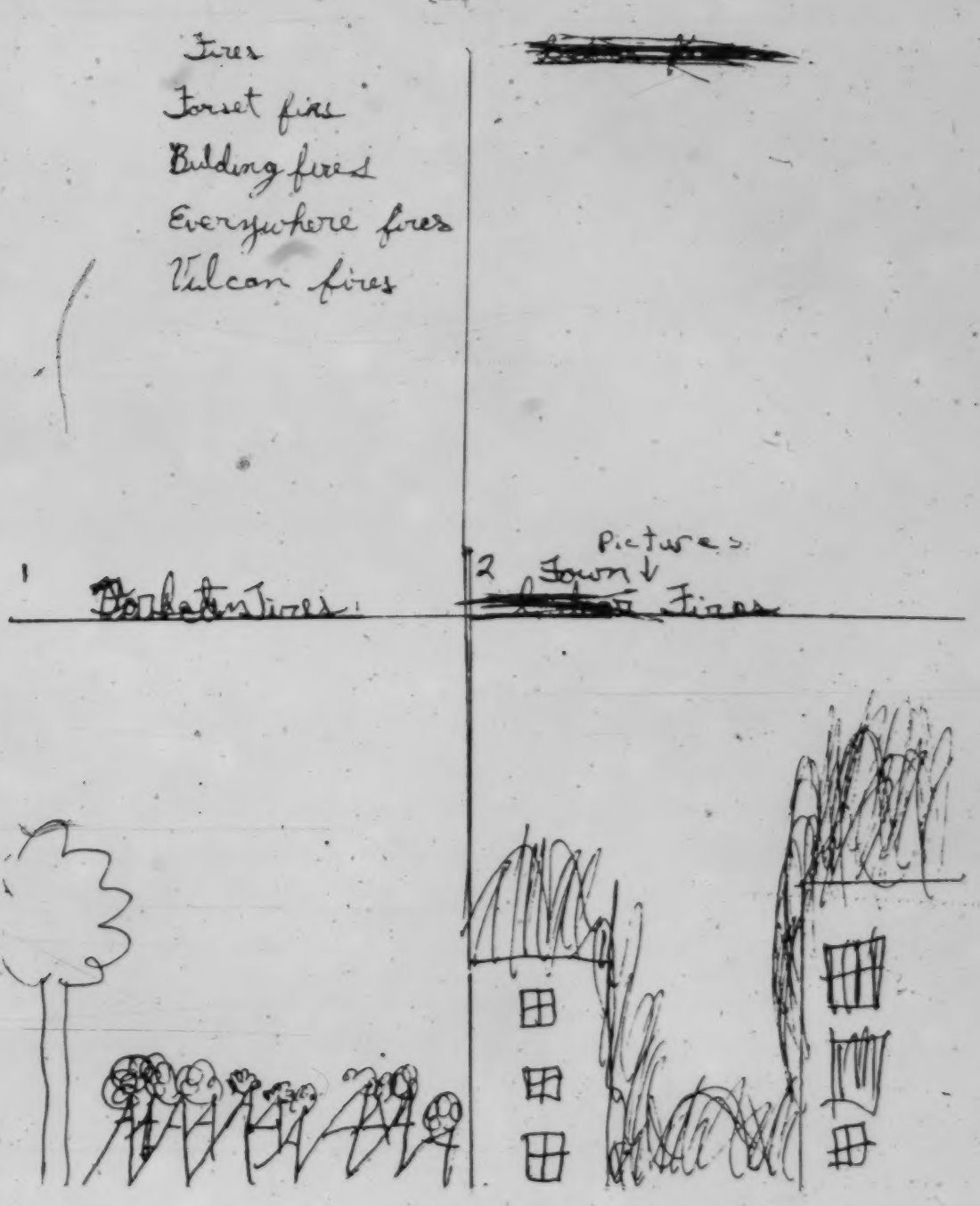
TABLE VII

Amount of Writing Produced

	TEST				
	Pre	HiT	AvT	Post	Retn
n	28	28	28	22	21
Total Words Written	2770	1667	2307	1826	1484
Average Story Length	98	59	82	87	70

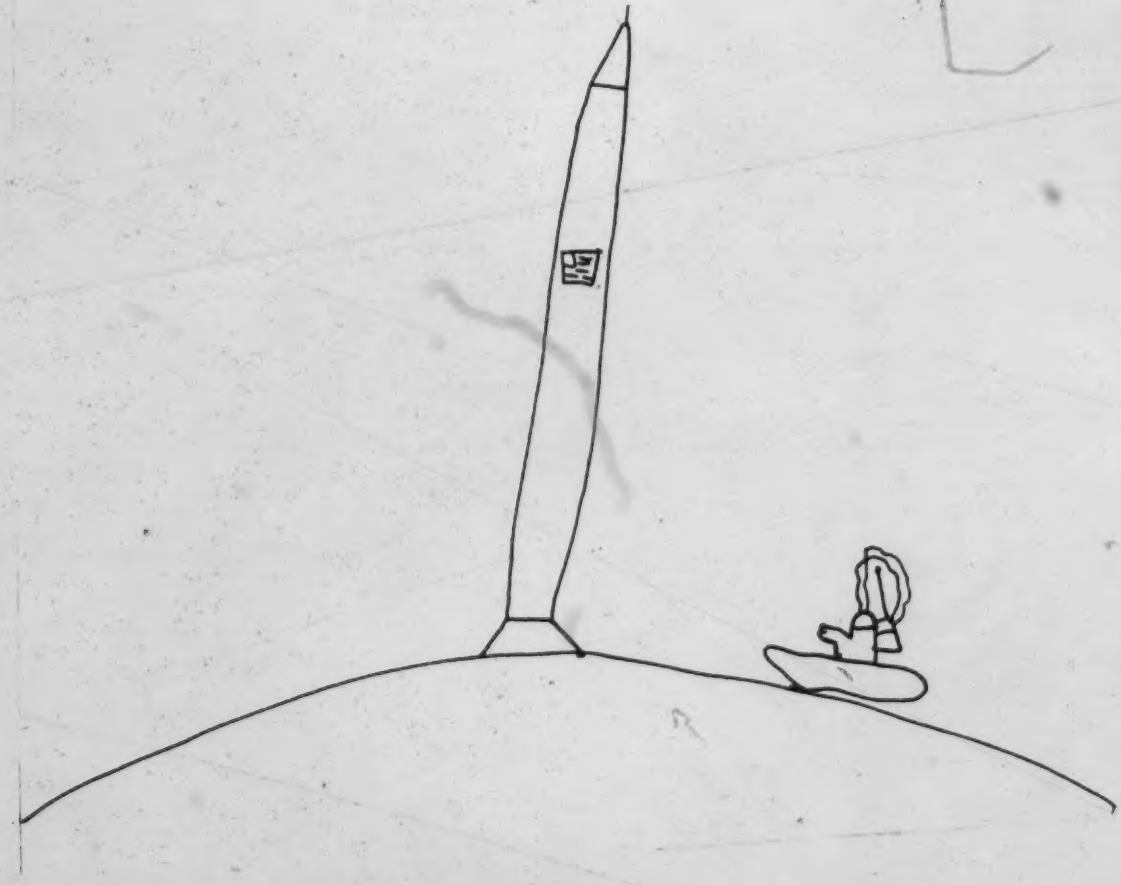
Chung

FIGURE I



Mark

54321, Blast Off! Hey look a monster. Hey Jack your chopping the monsters gut, Jack said it's eating me HELP HELP!.



Analysis of Qualitative Variables

All stories produced during this study were analyzed in terms of the following ten variables: Noun, Verb, Adjective, Adverb, Novelty, Punctuation-graphic, Aural Effects, Figurative Language, Sensory Details and Direct Writer Involvement. The raw scores for each variable in the five test groups, are presented in Table VIII. These raw scores were converted into ratio scores by dividing the raw score by the total number of words written in the story. Results appear in Table IX.

As indicated earlier, the number of stories included in each test group was not the same. Therefore, the raw scores as presented in Table VIII cannot be compared. This table does indicate that the use of nouns was approximately twice the use of verbs, and that the use of adjectives was far greater than the use of adverbs. It also indicates the small number of examples of figurative language, adverbs and punctuation-graphic. These conditions are responsible for the statistically small mean scores presented in Table IX, and for the statistically large standard deviation measures.

Many stories had no examples of the figurative language, adverb and other variables. Since all stories were included in determining the mean score for each variable, some of the mean scores were very small. For example, there was one example of figurative language in all 2,770 words written in the Pretest group. (see Table VIII). This resulted in a mean score of 0.0004. (see Table IX)

TABLE VIII

Qualitative Variable Raw Scores

VARIABLE	TEST Pre	HiT	AvT	Post	Retn
noun	554	382	433	351	261
verb	224	151	200	163	145
adjective	103	116	113	108	47
adverb	20	17	15	13	20
sensory detail	31	71	31	33	25
novelty	57	129	69	35	24
punctuation-graphic	13	37	13	15	3
aural effects	16	40	29	36	9
figurative language	1	11	3	4	2
direct writer involvement	49	33	28	40	22

TABLE IX

Qualitative Variable Mean Scores

TEST		VARIABLE									
		NOUN	VERB	ADJECTIVE	ADVERB	SENSORY DETAIL	NOVELTY	AURAL EFFECTS	FIGUR. LANG.	PUNCT.-GRAPHIC	DIRECT INVOLVE.
Pre	mean	0.2061	0.0861	0.0407	0.0071	0.0114	0.0275	0.0068	0.0004	0.0068	0.0186
	s.d.	0.0990	0.0631	0.0333	0.0150	0.0118	0.0436	0.0152	0.0019	0.0112	0.0135
HiT	mean	0.2629	0.0925	0.0746	0.0107	0.0236	0.0868	0.0300	0.0079	0.0339	0.0268
	s.d.	0.1067	0.0556	0.0815	0.0262	0.0314	0.0800	0.0444	0.0195	0.0530	0.0345
AvT	mean	0.2104	0.0896	0.0550	0.0061	0.0146	0.0386	0.0071	0.0011	0.0082	0.0136
	s.d.	0.0683	0.0318	0.0400	0.0103	0.0126	0.0436	0.0090	0.0042	0.0131	0.0134
Post	mean	0.1996	0.0952	0.0613	0.0065	0.0217	0.0239	0.0222	0.0022	0.0104	0.0209
	s.d.	0.0459	0.0429	0.0509	0.0127	0.0199	0.0347	0.0310	0.0067	0.0146	0.0165
Retn	mean	0.1914	0.0977	0.0318	0.0100	0.0200	0.0186	0.0082	0.0014	0.0045	0.0141
	s.d.	0.0574	0.0398	0.0323	0.0160	0.0190	0.0277	0.0137	0.0047	0.0134	0.0184

As Table IX indicates, the highest treatment test group scores were consistently higher than other groups, except for the verb variable. The average treatment test and post-test group's scores tended to be quite similar and somewhat higher than those of the pretest and retention test groups. The indication is that certain written language variables do change during and immediately after a program of creative dance, but that these changes are not retained when the dance activity ceases.

Noun.

The mean scores rose in the treatment stories and declined in the post-test and retention test stories.

Verb.

The mean scores rose for all groups. Retention and post-test group scores were the highest. This pattern differs from all other variable patterns.

Adjective.

The mean scores rose for all groups except the retention test group.

Adverb.

The mean scores rose in the highest treatment test and the retention test groups, and declined in the average treatment and post-test groups.

Novelty.

The mean scores rose in the treatment test groups and declined in the post-test and retention test groups.

Aural Effects.

The mean scores rose for all groups. Largest gains were in the highest treatment and post-test groups.

Punctuation-Graphic.

The mean scores rose for all groups, except the retention test group. A large gain was made in the highest treatment test group.

Sensory Details.

The mean scores rose for all groups. The highest treatment test group had the highest score.

Direct Writer Involvement.

The mean scores rose in the highest treatment and post-test groups, and declined in the average treatment and retention test groups.

In order to discover if significant differences existed between the scores for each variable over the time of the experiment, a Multiple Range test, using the Newman-Keuls procedure was undertaken. Results of that analysis are indicated in Table X. The highest treatment test group differs from the pretest and retention test groups for five variables, from the average treatment test group for four variables and from the post-test group for three variables. There is no significant difference between the test groups for four variables.

TABLE X

Summary of the Differences Between the Groups
Using the Newman-Keuls Procedure

Variable	This Group	Differed From	p<
novelty	HiT	Pre, AvT, Post, Retn	.01
punctuation graphic	HiT	Pre, AvT, Post, Retn	.01
aural effects	HiT	Pre, AvT, Retn	.01
noun	HiT	Pre, AvT, Post, Retn	.05
figurative language	HiT	Pre	.05
adjective	HiT	Retn	.05
involvement	nil	nil	.139
sensory	nil	nil	.152
verb	nil	nil	.436
adverb	nil	nil	.687

As described previously, the amount of modification in nouns showed a significant gain ($p < .01$) over the treatment period. This rise takes on a greater significance when considered with the mean scores of the Adjective variable. (see Table IX). There was no significant difference, although a slight rise was noted, between the Adjective mean scores of the pre and post-test groups. This indicates that while the amount of adjectives included in the writing did not change, the way in which they were used did change. Evidently, the nouns in the pretest stories were rarely modified and when they were, it was by multiples of adjectives.

e.g.
The bad, little, green mouse disenagraded his rocket.

The sentence above scored high on the Adjective variable, (3 points) but low on the Modified Noun variable. (1 point)

The nouns on the post-test stories were more commonly modified and by single adjectives.

e.g.
We went on all sorts of rides and some were scary rides, funny rides, fun rides good rides all kinds of different rides.

Although the sentence above is repetitious in structure, it scores high on the Adjective variable, (7 points) and also on the Modified Noun variable (8 points). Note that the adjective "all" does not meet the criteria of Specific Adjective, but does modify the nouns "sorts" and "kinds".

The increase in modification of nouns was not likely due to an increase in the number of nouns, since the number of specific Nouns (see Table IX) actually decreased in the post-test group.

Changes Significant at the $p < .01$ Level.

The greatest changes ($p < .01$) in the written language occurred in the Novelty, Punctuation-Graphic, and Aural Effects categories. It is of interest that these three variables represent an increase in the imaginative (Novelty), the visual (Punctuation-Graphic) and the audio (Aural Effects) aspects of the writing. The dance lesson content was highly imaginative and the teaching-learning process relied heavily on sound or audio perception. Perhaps, the dance itself created a series of visual images for the children, which they translated into story illustrations. Much of the punctuation and graphic effects appeared to emphasize the auditory aspects of the dance experiences. For example, sound words such as "bang", were often printed in triple-sized letters or were surrounded by zig-zag lines or spoke lines. Dramatic words such as "fire" or "moon", sometimes received a visual emphasis in similar ways. It seems likely that the musicality or rhythm of the dance transferred to the language, as indicated by the large gain in the Aural Effects category.

Changes Significant at the $p < .05$ level.

The specific Noun and Figurative Language categories also showed a significant increase. ($p < .05$) While the dance lesson was providing action experiences, perhaps the children were associating "what" or "who" could be involved in such action. This might explain the rise in specific Nouns. The increase in Figurative Language may have resulted from the children identifying with or becoming like the images presented in the dance lesson.

Summary.

There was a significant difference between the VTR scores on a pretest and on treatment tests and a post-test, but there was no significant difference between the VTR scores of a pretest and a retention test. Therefore, Hypotheses 2xi and 3xi are rejected and Hypothesis 4xi is accepted.

There was a significant difference between the writing performance on a pretest and a treatment test in terms of the following variables of qualitative language: Novelty, Punctuation-Graphics, Aural Effects, Noun and Figurative Language. Consequently, Hypotheses 2i, vi, vii, viii, and ix are rejected.

There was no significant difference between the writing performance on a pretest and a treatment test in terms of the following variables of qualitative language: Adjective, Verb, Adverb, Sensory Detail, and Direct Writer Involvement. Hypotheses 2ii, iii, iv, v, and x are accepted.

There was no significant difference between the writing performance on a pretest and a post-test or a retention test in terms of any of the variables of qualitative language. Therefore, Hypotheses 3i-x and 4i-x are accepted.

IV. SUMMARY

The increase in the descriptive and informative aspects of the writing was demonstrated in the first section of this chapter. The second section suggested that the greater changes in written language, in terms of the qualitative variables analyzed, occurred in the writing which was preceeded by a creative dance experience.

This indicates that dance is an effective stimulus for creative writing. None of the changes were significantly retained in the retention test group, but the overall qualitative changes in the written language were retained in the post-test group's performance. This may indicate that while the writing loses the particular qualities measured in this study, after the dance experience is long past, the writing retains these qualities even when dance is not the stimulus for writing, so long as there is an on-going program of creative dance. This has major implications for elementary school program planning.

The dance did not effect changes in vocabulary as much as in literary devices and techniques. In other words, the treatment

did not achieve a transfer of specific dance action words, but may have been a factor in the transfer of sights, sounds and images into written language.

CHAPTER V

SUMMARY, CONCLUSIONS AND IMPLICATIONS

I. SUMMARY

The aim of this study was to determine which aspects of written language might be effected by creative dance experiences and the temporal aspect of any such relationship.

Twenty-eight grade four children participated in a five-week creative dance program. Half of the dance lessons were followed by a related creative writing assignment. The writing produced during the treatment period was compared to samples of creative writing taken from the children before the treatment period began, two days and twenty-five days following the end of the treatment program.

The writing was analyzed for fourteen variables of written language. The raw scores were converted, and the class mean scores for each variable were found. Four quantitative language variables were analyzed using a "t" test to compare Pre- and Post-test scores. Ten qualitative language variables were analyzed using a One-way Analysis of Variance, a Multiple Range test, the Newman-Keuls procedure and a "t" test, to compare Pretest, Treatment Tests, Post-test, and Retention Test scores.

In the following sections, a summary of the findings of the statistical analysis is presented, together with the conclusions and implications of these findings.

II. SUMMARY OF THE FINDINGS

1. A comparison of pretest and post-test performances indicated a significant increase in the amount of modification of nouns ($p < .01$) and in the amount of information ($p < .05$) or ideas included in the writing. Increases in the amount of modification of verbs or in the range of the vocabulary used, did not reach the level of significance.
2. There was a statistically significant change ($p < .01$) in the overall measure (VTR) of qualitative language variables in the treatment tests and the post-test.
3. The qualitative variables of written language which changed significantly during the treatment program were: Novelty, Punctuation-Graphic, Aural Effects ($p < .01$) and Noun and Figurative Language ($p < .05$).
4. The qualitative variables of written language which showed no statistically significant change during and following the treatment program were: Verb, Adjective, Adverb, Sensory Detail, and Direct Writer Involvement.
5. The post-test retained many of the changes in qualitative language, but none of the increases were statistically significant.

6. The retention test retained few of the changes in qualitative language. None of these changes were statistically significant.

III. DISCUSSION OF THE RESULTS

The results of this study must be considered in terms of the purpose of the treatment program. The dance lessons did not attempt to teach for transfer of specific vocabulary to the written language mode. The purpose of each treatment lesson was, instead, to provide an experience in creative dance activity. It was hypothesized that the practice and process of thinking creatively in dance might transfer to the writing situation. Certain conditions were set up to facilitate such transfer of learning. The focus, or theme, of the dance lesson was also the focus of the writing project. The children were encouraged to think freely and independently, and all ideas were accepted. The teacher was the same for both the dance and writing situations.

Since most of the action words used in the dance lessons were verbs, it seems surprising that there was no statistically significant rise in the use of specific verbs. The children did use consistently more specific verbs during and following the treatment program, but it was expected that this aspect of the language would change greatly. Interpretation of this result is difficult.

Boorman's study (1972) found a statistically significant rise during and following the treatment program, in the test vocabulary, most of which were verbs. However, the purpose and design of her study were very different from the present investigation. She taught specific words through dance, encouraged the children to apply these words in their writing and measured only these words as an indication of breadth of vocabulary development. The implication may be that if the purpose of the creative dance lesson is to teach action words, then the children will respond with these words, in their writing. If the purpose of the creative dance lesson is to develop the child's facility in creative thinking through movement, then the children involved may transfer this facility to creative writing.

The lack of change in specific Adverbs was expected, but for entirely different reasons than what occurred. It was expected that the specific Adverbs might decrease over the treatment period as the specific Verbs increased. The Verbs, of course, did not increase. It was expected that as the verbs became more specific, there would be less need for adverbs.

The increase in specific Nouns, might be attributed to the divergent thinking nature of the dance activity. For example, the teacher could supply the words, "orbit, zoom, blast-off" in one lesson, but the children could be thinking of any number of specific things, "rockets, asteroids, space stations", nouns that performed the action of the verbs suggested. The rise in nouns might also

be attributed to the effect of the specific images presented. In Lesson Three, the children worked with contrasting the hunter and the hunted in dance. In their stories, they invented personalities for these images.

In one story, two friends, "Glip and Glop Glop set off in their glipyglopmobile" to search for the "glipyglop monster". In another story on the same topic, there was a "1,000,000 dollars reward for capturing the dangerous 18 hour gurtel". A man did kill it, only to find out that it was hiding in his wife's panti-hose. The wife was wearing the panti-hose at the time. The writer concluded that, "the hunter was a millioner and he was happy that his wife was dead."

The most striking effect of the creative dance activity on the written language was not measured by the testing instrument, but became increasingly evident to the investigator as the children's stories were analyzed. As indicated briefly in the previous paragraph, the range of the characters, plots and thoughts in the writing which followed a creative dance lesson, was very broad. This points out the great strength of creative dance as a stimulus for writing. It was always specific enough for each child to have ideas for writing, but was general enough to allow for the broadest range of interpretation.

In practical terms it may be difficult for each child in a class to participate fully in an oral discussion. Some children may not be fully involved in other stimuli experiences, such as

films, music or listening activities, and the teacher may have no way of knowing if the child is involved. In creative dance, every child dances; therefore, every child is fully involved in the experience. If the child is not involved, he is not moving. This is easy for the teacher to spot, and she can act on it immediately, to bring the child into the action. Torrance suggested (1965) that people respond differently to each kind of sensory experience. Creative dance will involve most types of children because there is a visual, audio and kinaesthetic stimulus and response.

In Lesson Three, as mentioned previously, the children explored chasing and hiding actions. The dance lesson did not specify who, where, or why the hunt was going on. This gave the child no preconceived ideas for his writing. Lesson Six explored the action quality of a storm, as the children slashed, grumbled, exploded and paused. However, they were not told that they were the "lightning, thunder, wind, rain, snow" or any other specific role. Hence, their stories were not only about blizzards, typhoons and tidal waves, but about highly improbable storms. One child went to "Argentina and it stated to rain meetballs . .to Chilly it was raining long slimy sbagetty.... to Veneswala it was raining black-eyed peas... and to Brazil it was very windy and it was raining tomadoes." At the end of his journey, he writes, "I went back to all the places an got ten of each thing that rained and made a stew."

The other lessons stimulated this variety in response and flexibility in thought, to varying degrees. Lesson Ten, "Outer Space Adventure", would seem a very specific topic, but the children created some unusual galaxies. A genuine flexibility of thought was evident when one child wrote about blasting off into a toilet bowl. Lesson Eleven, "Escape Adventure", stimulated writing about escaping from many places, including prison camps, schools and Dracula's coffin. Not all escapees were people, either. Some children wrote about various animals and inanimate objects that were prisoners in some way. Lesson Twelve, "The Fire" resulted in some highly moralistic preaching about the dangers of playing with matches, in some poetry which was charged with sight and sound images, and in some fantasies of favourite places, such as schools, burning down.

The tendency for the writing preceeded by creative dance activity to include more examples of the qualitative variables of language analyzed, than the writing which was preceeded by a visual aid and oral discussion, suggests that creative dance has a unique and powerful effect on the kind of language produced.

The changes which occurred during the treatment period tended to remain, in a very general and statistically significant way, in the post-test writing but not at all in the retention test writing. It is difficult to generalize on the implications of this result, in view of the relatively short treatment period of five weeks, but the fact that the post-test writing did retain a degree

of the written language changes, suggests that these changes might have been retained to a larger degree, if the treatment period had been longer. Furthermore, the consistent upward trend of the specific Verb variable might have shown a statistically significant change if the treatment period had been longer.

In summary, it would seem that the creative dance experience effected greatest changes in the imaginative and sensory aspects of the writing. A freedom in creating dance images seemed to transfer to a freedom in creating poetic images, sight and sound effects and characters and plots that were often inventive, fantastic and bizarre. It should be noted, too, that no child hesitated to write and share his story, once the treatment had begun. It may be speculated that because the child experienced success in the creative dance activity and realized that all his movement ideas were accepted by the teacher he lost any fear or apprehension of writing even the most personal or unusual ideas.

The additional strength in using creative dance as a stimulus for creative writing, lies in the broad range of interpretations for the stimulus. Just as every child was involved in the dance action, so was every child motivated to write. Similarly, as each child created a unique dance product, each child created a unique writing product. The great divergency of thought which characterized the creative dance lesson appears to have transferred to the creative writing lesson.

IV. GENERAL CONCLUSIONS

The results of this study lend support to Violet Bruce's statement (1965, 41) that changes in certain aspects of written language which "help the child or student to express more clearly and vividly in writing", may be brought about by the creative dance experience.

Certain quantitative aspects of written language may change following a program of creative dance. Further, writing which is stimulated or preceeded by creative dance includes a greater amount of certain qualitative language aspects than writing which is not preceeded by the creative dance experience. The children, in this study, appeared to have transferred their creative thinking experiences in creative dance to their creative writing activity.

V. IMPLICATIONS

If creative dance does aid in developing certain aspects of written language, then the elementary school should provide learning experiences in this regard. If writing becomes "more qualitative", as Boorman has suggested (1972, 58) and as this study has found, when the child participates in creative dance, and retains these desirable changes only when the creative dance experiences are frequent, as this study has found, then the schools must also consider establishing an on-going program of creative dance.

VI. IMPLICATIONS FOR FURTHER RESEARCH

Further research is needed to measure the effect of creative dance experiences on written language development, in a time-controlled experimental situation, using a control group and an experimental group. The writing produced in such a study could be analyzed for those variables which showed a significant increase in this study. In addition, research is needed to determine the effects of creative dance experiences in the written language development of specific learner groups. Research into the effects of creative dance experiences on the oral language development of children in specific learner groups, would also be valuable.

Revisions of the instrument for analyzing the qualitative aspects of written language might be valuable for the variables which occurred infrequently in the writing, such as adverbs, figurative language, and punctuation-graphics. Alternate methods of treating the data of these infrequently occurring variables might also be found.

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APPENDICES

Appendix 1

ACTION WORDS USED IN DANCE TREATMENT LESSONS

anchor
balance
blast off
blaze
bump
collapse
crash
dart
die
digest
dodge
drip
explode
fly
freeze
gallop
grip
grumble
hide
jab
jagged
leap
look
lope
open
ooze
pause
peer
push
quiver
reach
rip
round
rumble
scurry
search
sharp
shoot
sink
skinny
slash
smolder
smooth
snap
spin
squat
swirl
tangled
thrust
tremble
twist
vroom
whip
whirl
whizz
wither
zip zap
zoom

Appendix 2

LESSON PLANS

LESSON 1

I. Action Words	II. Movement Emphasis - Details	III. Images-Sequences
DART	DART - Vary direction on each dart. Direct pathway.	1. DART-FREEZE (drum)
FREEZE	FREEZE - Hold shape	
GALLOP	GALLOP - Into empty spaces	
GRIP	GRIP - Clench whole body in grip.	
LEAP	LEAP - Maximum elevation.	2. GALLOP-LEAP-GRIP. (drum)
DRIP	DRIP - Isolated body parts stick out, as body lowers.	
SPIN	SPIN - Vary bases.	3. DRIP-SPIN-EXPLODE. (cymbal)
WHIRL	WHIRL - Wide body shape.	
SWIRL	SWIRL - Travel as you swirl.	
EXPLODE	EXPLODE - Whole body extension	

IV. Formulation

GALLOP-LEAP-EXPLODE-DRIP-SPIN-DRIP-SPIN-EXPLODE

Music: "Light Cavalry Overture" and Electronic Sound Patterns, Side 2 (E.M.I. Label)

LESSONS 2 and 3

Lesson 2

I. Action Words	II. Movement-Emphasis-Detail	III. Images-Sequences
SCURRY	SCURRY - Quick, light steps.	1. SCURRY-HIDE. Focus on a spot, scurry towards it, hide on it. (tambourine)
HIDE	HIDE - Vary shape, level	
TREMBLE	TREMBLE - Whole body gently shakes. Boundflow.	2. SCURRY-HIDE-TREMBLE. Focus on a spot, scurry towards it, hide on it, tremble while hiding. (tambourine)

IV. Formulation.
SCURRY-HIDE-TREMBLE
Music: "Quivery", Listen and Move Series. (MacDonald and Evans label)

Lesson 3

GALLOP	GALLOP - High knees.	1. GALLOP-LEAP-SPIN-GRIP. Smooth transitions between actions. Show that you are determined to hunt down your prey.
LEAP	LEAP - Turn in elevation.	
SPIN	SPIN - Vary level.	
GRIP	GRIP - Whole body clenched.	2. SCURRY-HIDE-QUIVER-LOOK. Smooth transitions. Don't let yourself get caught.
SCURRY	SCURRY - Quick steps.	
HIDE	HIDE - Vary levels and shapes.	
QUIVER	QUIVER - Whole body gently shakes.	
LOOK	LOOK - Gesture. Vary focus.	

IV. Formulation
GALLOP-LEAP-SPIN-GRIP - Music - "Light Cavalry Overture"
SCURRY-HIDE-QUIVER-LOOK-Music - "Quivery", Listen and Move Series. (MacDonand and Evans)
In pairs, create a dance about a hunter and the hunted, using this music.

LESSONS 4, 5 AND 6

I. Action Words	II. Movement-Emphasis-Detail	III. Images - Sequences
Lesson 4		
TWIST	TWIST - Body shape.	1. TWIST-JAGGED-SHARP. Stick parts out into space. Do you have sharp edges? (cymbal)
SMOOTH	SMOOTH - Body surface.	
JAGGED	JAGGED - Body shape.	
ROUND	ROUND - Body shape.	2. SMOOTH-ROUND - Begin low, grow higher, keeping smooth and round. (cymbal)
SHARP	SHARP - Body surface.	

IV. Formulation

In groups of two, make sharp shapes that are connected at one body part.
In groups of two, make round, connected shapes. Then twist into sharp, connected shapes.
In groups of four or five, make connected smooth shapes that twists into connected sharp, jagged, sharp shapes.
Observe group sequences - SMOOTH-TWIST-JAGGED.

Lesson 5		
SLASH	SLASH - Vary body parts used. Jagged shape. Vary direction of action.	1. SLASH-ANCHOR. Sequence action, varying body part which is anchored. (claves). Lightning creates designs in the night sky.
ANCHOR	ANCHOR - Show clearly what body part anchors you to floor.	
OPEN	OPEN - Begin from smooth shape. Sustained action.	2. OPEN-REACH-PAUSE. Let the reach travel quietly to new spaces, pause, then travel again. Travel in slow motion. (cymbal)
REACH	REACH - Sustained action. Use all body parts.	

LESSON 5, cont.

PAUSE	PAUSE - Hold onto shape.	3. WHIP-RIP-GRIP. Show violence and strength in your action. The wind whips you away. (tambourine)
WHIP	WHIP - Use whole body. Sudden. Personal space.	
RIP	RIP - Travel in whipping action. Indirect pathway	
GRIP	GRIP - Bound flow.	

IV. Formulate.

SLASH-ANCHOR-SLASH-ANCHOR (claves)
WHIP-RIP-GRIP-WHIP-RIP-GRIP (tambourine)
REACH-PAUSE (cymbal)

Lesson 6

RUMBLE-GRUMBLE	RUMBLE-GRUMBLE - Rounded body shape. Change levels with a spin.	4. RUMBLE-GRUMBLE-EXPLODE. Let action build up speed, change levels. . . then explode. (drum) Thunder crashes in the sky.

IV. Formulation

Review: SLASH-ANCHOR-WHIP-GRIP-RIP-REACH-OPEN-PAUSE.
Add: RUMBLE-GRUMBLE

In pairs, create a dance about a storm, using this music. You can take parts, or dance at the same time.
Music: taped collage from "Morning Mood" and "In the Hall of the Mountain King", Peer Gynt by Grieg.

LESSONS 7 and 8

I. Action Words	II. Movement-Emphasis-Detail	III. Images-Sequences
Lesson 7		
SKINNY	SKINNY - Body shape. Stretch all the way out. Vary level.	1. SKINNY-SQUAT-TANGLED. With partner, mirror your changing shapes. Move slowly.
SQUAT	SQUAT - Wide as you can. Shape.	
TANGLED	TANGLED - Twist limbs into tangled shape.	Put imaginary flippers on your feet.
LOPE	LOPE - Lift feet high. Travel. Use arms. Vary directions.	
WHIRL	WHIRL - Vary bases and levels. Personal space.	3. WHIRL-WHIZ. In groups of four, spread apart, whirl up, whiz together and apart, whirl down. Try to match movements. How can you vary the speed?
WHIZ	WHIZ - Travel with turning action.	

IV. Formulation

LOPE-CHANGE SHAPES-WHIR-WHIZ

Lope to partner, mirror changing shapes, lope to groups of four, whirl and whiz action.

Music: "Charlie Brown's Caliope", Snoopy Come Home. (sound track)

Lesson 8

Review actions of previous lesson. Describe them in a "Fairgrounds" context.

i.e. LOPING - Clowns
CHANGING SHAPES - House of Mirrors
WHIRL-WHIZ - Octupus Ride

Continue with discussion of action words on board, by asking children to identify the aspect of a Fairground that matches the movement suggestions.

LESSON 8 cont.

BALANCE	BALANCE - Sustained. Backwards and forwards only.	4. BALANCE-CRASH Acrobats
CRASH	CRASH - Tangled, twisted shape. Sudden. Action and Stillness.	
VROOM	VROOM - Direct Pathway.	5. VROOM-DODGE-BUMP. Crazy Cars. Change directions on dodge.
DODGE	DODGE - Hold shape momentarily.	
BUMP	BUMP - Come out of the bump in a spin or roll.	

IV. Formulation:

Return to groups of four, and create one other Fairgrounds event. It can be a ride, side show or any related idea.
Using the music, the class contributes to a Fairgrounds Dance, following this sequence: (teacher signals changes with drumbeat).
Clowns LOPE on. House of Mirrors CHANGE SHAPES. Octupus ride WHIRLS-WHIZ. Acrobats BALANCE and CRASH. Crazy Cars VROOM-DODGE-BUMP - Clowns LOPE to creative FAIRGROUND EVENT.
Music: "Charlie Brown's Caliope", Snoopy Come Home. (Soundtrack).

LESSON 12

I. Action Words	II. Movement-Emphasis-Detail	III. Images-Sequences
SNAP	SNAP - Sudden, small body extension. Vary parts. Vary rhythm. Use word to accompany action.	1. SNAP-SHOOT-ZIP ZAP Create a rhythm of these actions, that is irregular. Let your sparks fly.
SHOOT	SHOOT - Sudden, large body extension. Vary parts. Vary rhythm. Use word to accompany action.	Burn lines on the floor.
ZIP-ZAP	ZIP-ZAP - Travel with snapping and shooting actions.	
SMOLDERING	SMOLDERING - Travel. Sustained. Whole body on floor. Vary parts that touch floor. Whisper word to accompany Action.	
BLAZE	BLAZE - Strong, direct action. Irregular Pathway.	Let the fire blaze out of your body. Set this room blazing. (tambourine)
WITHER	WITHER - Sustained, fine touch. Change body shape, one part at a time.	As the flames are put out you wither down.
DIE	DIE - Sudden, release of energy. Stillness.	Hold on to your shape.

IV. Formulation:

Discuss how fires begin, grow and end. Relate children's ideas to dance images.
SHOOT-SNAP-ZIP ZAP-SMOLDER-BLAZE-WITHER-DIE.
(Voice, tambourine)

Appendix 3

SAMPLE SCORE SHEET

NAME _____

TEST	VARIABLES								
	NOUN	VERB	ADJ.	ADV.	NOVEL.	PUNCT.-G.	AURAL	SENSORY	INVOLVE.
Pretest									
Treatment Test 1									
2									
3									
4									
5									
6									
Post-test									
Retention Test									

	MOD. NOUN.	MOD. VERB	CONTENT	FUNCTION	TYPE	TOKEN
Pretest						
Post-test						

PLATE I

PRETEST TRANSPARENCY

PLATE II

POST-TEST TRANSPARENCY

PLATE III

RETENTION TEST TRANSPARENCY